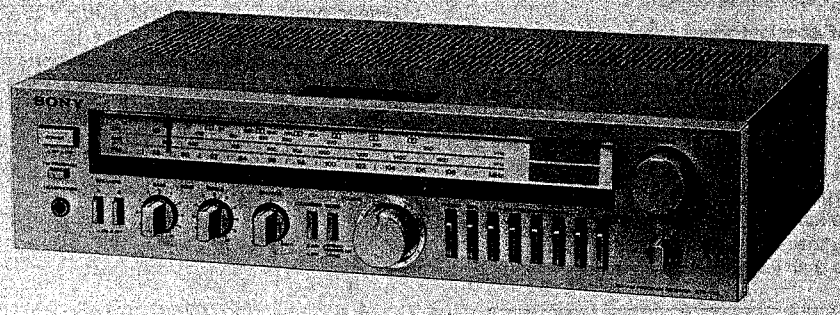
STR-VX1L

AEP Model



FM-AM PROGRAM RECEIVER

SPECIFICATIONS

FM tuner section

Tuning range	87.5–108 MHz
Antenna terminals	300 ohm balanced 75 ohm unbalanced
Intermediate frequency	10.7 MHz
Sensitivity at 46 dB quieting (at 40 kHz deviation)	4.0 μV (mono), 45 μV (stereo)
Usable sensitivity	IHF 2 μV, 11.2 dBf 1.6 μV (S/N = 26 dB, 40 kHz deviation)
Signal-to-noise ratio	69 dB (mono), 64 dB (stereo)
Harmonic distortion	0.2% (mono), 0.3% (stereo), at 1 kHz
IM distortion	0.2% (mono), 0.3% (stereo)
Separation	45 dB at 1 kHz
Frequency response	40 Hz–12.5 kHz $^{+0.5}_{-1}$dB
Selectivity at 300 kHz	(at 40 kHz deviation, S/N = 26 dB) 40 dB
Capture ratio	1.5 dB
AM suppression ratio	48 dB
Image response ratio	45 dB
Spurious response ratio	70 dB
Muting threshold	Approx. 5 μV

MW/LW tuner section

	MW	LW
Tuning range	522 kHz–1,602 kHz	150 kHz–350 kHz
Antenna	Built-in ferrite rod antenna, External antenna terminal	
Intermediate frequency	450 kHz	
Usable sensitivity	250 μV/m, built-in antenna (1,000 kHz) 100 μV, external antenna (1,000 kHz)	500 μV/m, built-in antenna (230 kHz) 100 μV, external antenna (230 kHz)
Signal-to-noise ratio	52 dB (50 mV/m)	52 dB (50 mV/m)
Harmonic distortion	0.3% (50 mV/m, 400 Hz)	0.3% (50 mV/m, 400 Hz)
Selectivity	35 dB (9 kHz)	35 dB (9 kHz)

– Continued on page 2 –

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

SONY®

SERVICE MANUAL

STR-VX1L

Amplifier section

Continuous RMS power output (less than 0.08% THD, both channels driven simultaneously)

at 20 Hz–20 kHz
22 + 22 watts (8 ohms)
at 1 kHz
25+ 25 watts (8 ohms)
according to DIN 45500
22 + 22 watts (8 ohms)

Dynamic power output (IHF constant power supply method)
65 watts (8 ohms)

Power bandwidth (IHF)
15 Hz–35 kHz

Damping factor 30 at 1kHz, 8 ohms

Harmonic distortion Less than 0.08% at rated output
Less than 0.05% at 1 W output

Intermodulation (IM) distortion (60 Hz : 7 kHz = 4:1)
Less than 0.08% at rated output
Less than 0.05% at 1 W output

Residual noise Less than 0.05 μW at 8 ohms

Inputs

	Sensitivity	Impedance	S/N	Weighting network
PHONO	2.5 mV	50 kilohms	75 dB	A
TAPE	150 mV	50 kilohms	90 dB	A

Measured with rated output power into 8 ohm loads (both channels driven simultaneously) at 1kHz.

Outputs (with rated input)

REC OUT	Voltage 150 mV	Impedance 10 k ohms
HEADPHONES	Accepts all low or high impedance headphones.	
SPEAKER	8–16 ohm speakers are suitable.	

Frequency response PHONO
RIAA equalization curve ±0.5 dB
TAPE
10 Hz–50 kHz $^{+0}_{-3}$ dB

Tone controls BASS ±8 dB at 100 Hz
TREBLE ±8 dB at 10 kHz

Loudness control (att. 30 dB)
+8 dB at 100 Hz

General

System Superheterodyne FM/AM tuner, Direct coupled quasi-complementary symmetry power amplifier circuit (SEPP OTL)

Power requirements AEP model: 220 V ac (or 240 V ac adjustable by authorized Sony personnel), 50/60 Hz

Power consumption AEP model: 75 W

AC outlets AEP model: One switched, 100 W

Dimensions Approx. 430 x 105 x 315 mm (w/h/d) (17 x 4 3/16 x 12 3/8 inches) incl. projecting parts and controls

Weight Approx. 6.2 kg (13 lb 11 oz) net
Approx. 7.7 kg (17 lb) in shipping carton

SERVICING NOTE

MELF (Metal Electrodes Face-Bonding) Components

Warning

If MELF components are forcibly removed from the printed circuit board with pincers or pliers, the circuit board pattern is likely to peel away. Always remove MELF components according to the procedure described on the next page. Replace MELF components with the lead type components.

MELF components are soldered directly to the surface of the printed circuit board.

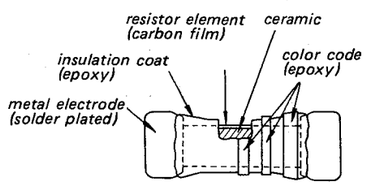
MELF resistors and capacitors have the same dimensions and are distinguished by their background colors: light brown for resistors, and pink or light green for capacitors.

The MELF resistor color coding is the same as for conventional resistors, and MELF capacitor color coding is the same as for tube-type ceramic capacitors. Note, however, that all MELF resistors are rated at ¼W and ±5%.

Components larger than resistors and without a color code are cross conductors, which are used instead of jumper wires.

1. Structure

(Resistors)



(Capacitors)

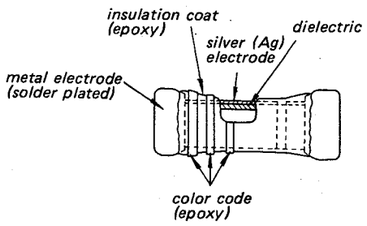
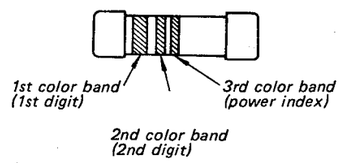
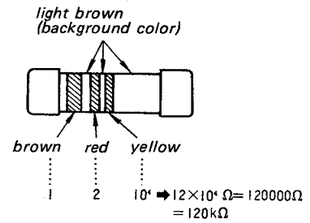


Fig. 1

2. Color Code Reading



(Example of Resistor)



(Example of Capacitor)

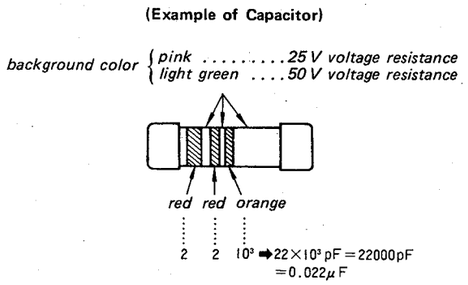


Fig. 2

3. How to Remove MELF Components and Mount Replacements

Use a soldering iron of at least 40W with an iron tip 4mm in diameter and file the tip down to the angle shown in the diagram.

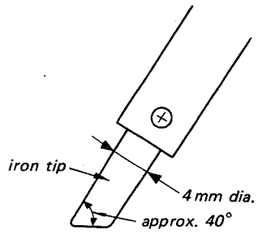


Fig. 3

1. Bring the flat surface of the soldering iron in equal contact with both soldered ends of the component.
2. The solder should melt in about 4 seconds. (The solder will melt more readily if a small amount of solder is attached to the iron tip and the iron tip is placed against the component.)
3. Once the solder has melted, tap the component aside with the tip of the soldering iron, and remove it from the board.

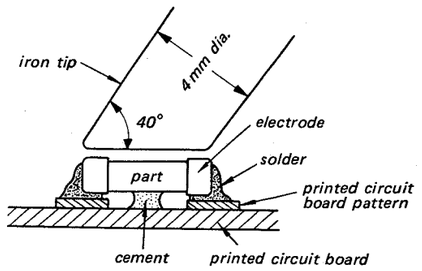


Fig. 4

4. Use lead type resistors or capacitors to replace the MELF components.
   These replacements may be mounted either with short leads (see Fig. 5), or by covering a lead with tubing (see Fig. 6).

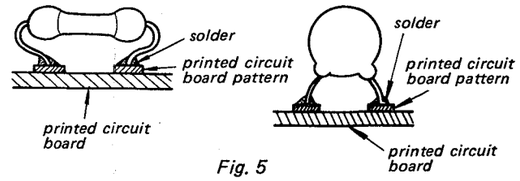


Fig. 5

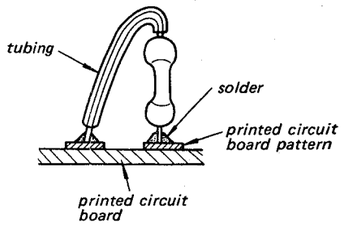
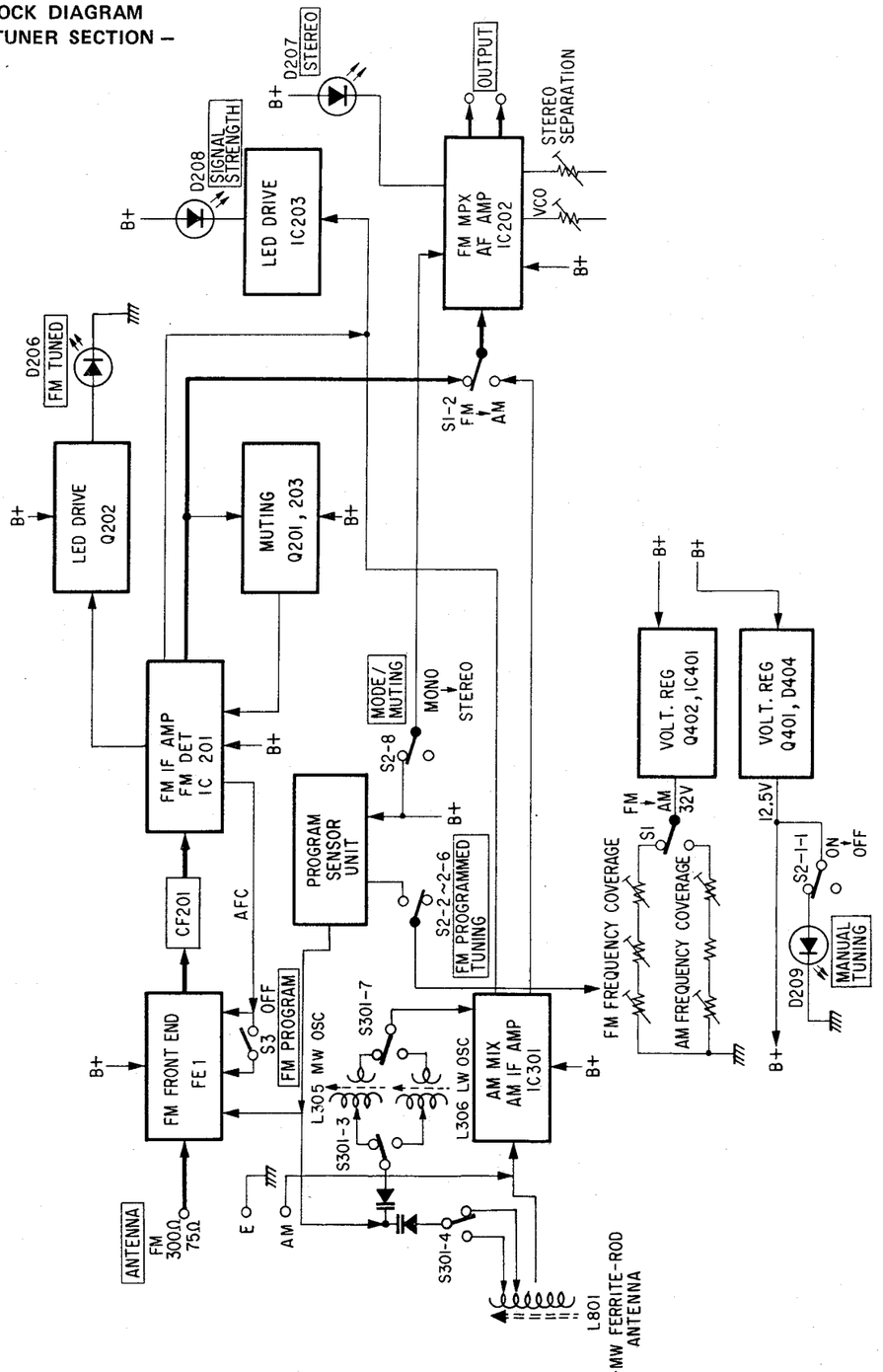


Fig. 6

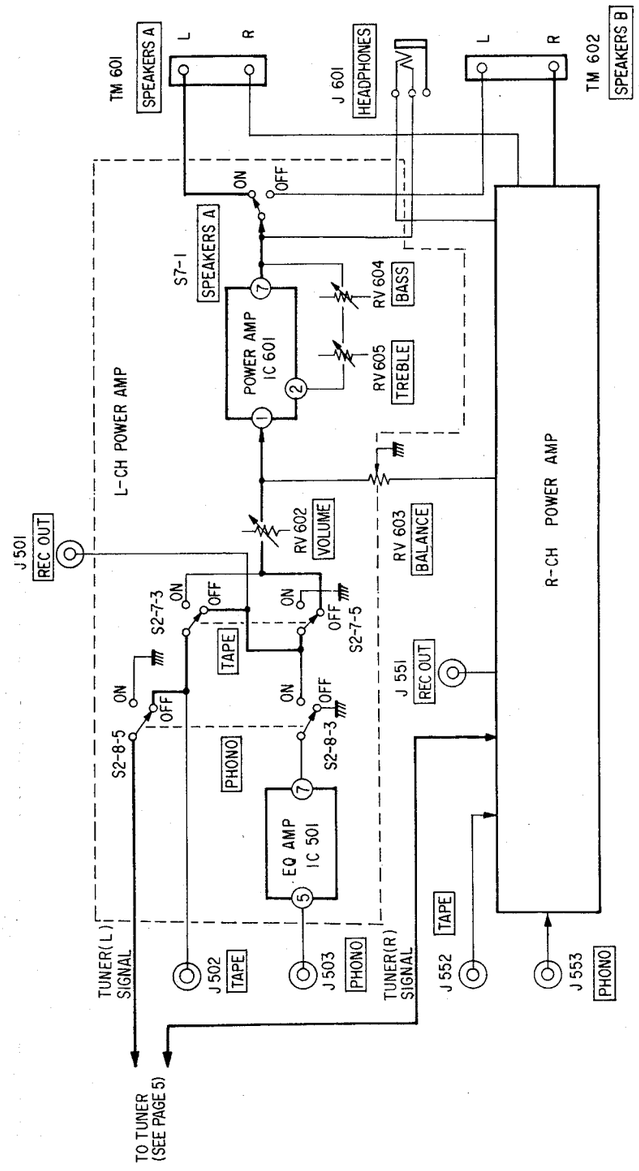
SECTION 1
OUTLINE

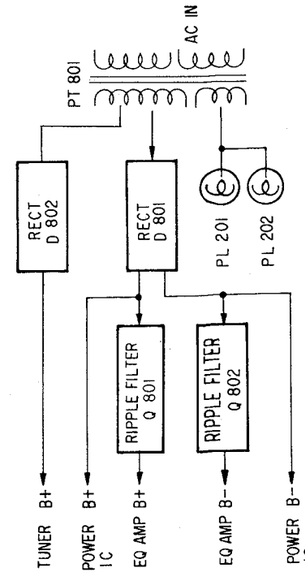
1-1. BLOCK DIAGRAM

– TUNER SECTION –



– AUDIO AMP SECTION –





SECTION 2
DISASSEMBLY

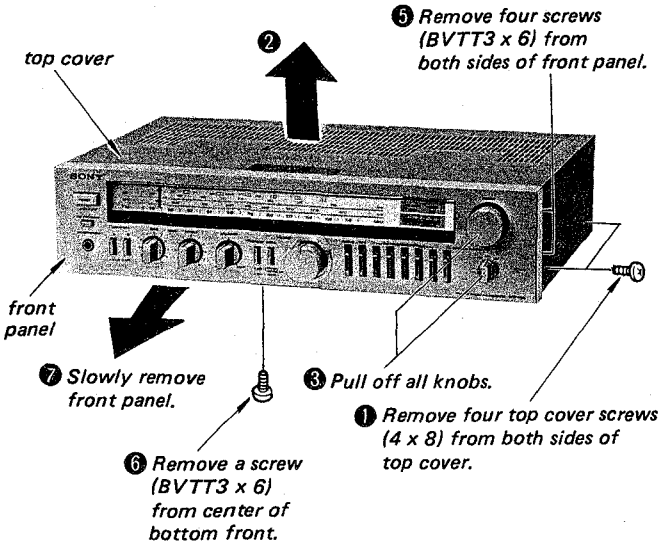
2-1. DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

TOP COVER AND FRONT PANEL

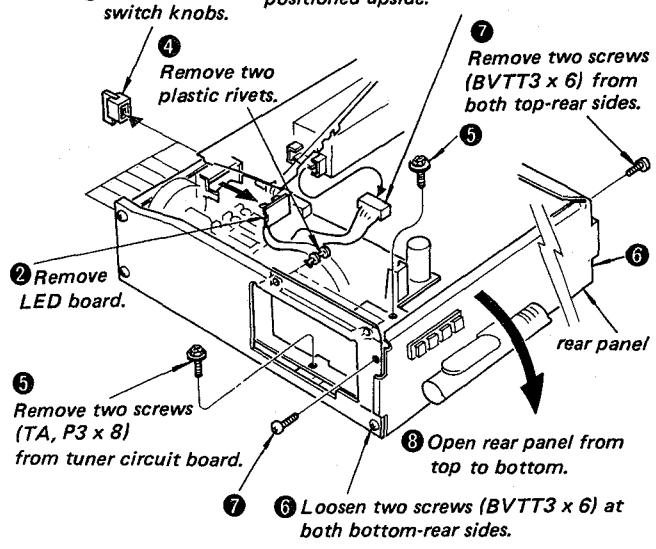
Top Cover: ❶ – ❷
Front Panel: ❶ – ❼

❹ *Remove LED (C) board from front panel.*

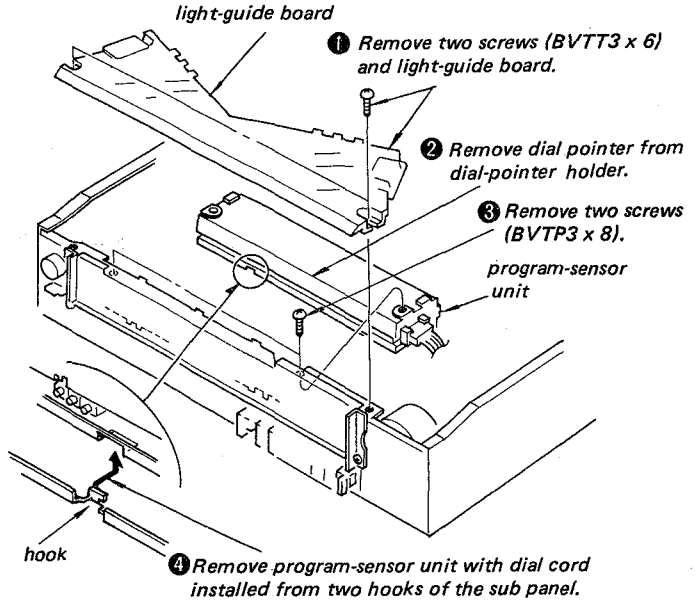

top cover
❷
❺ Remove four screws (BVTT3 x 6) from both sides of front panel.
front panel
❼ Slowly remove front panel.
❸ Pull off all knobs.
❻ Remove a screw (BVTT3 x 6) from center of bottom front.
❶ Remove four top cover screws (4 x 8) from both sides of top cover.

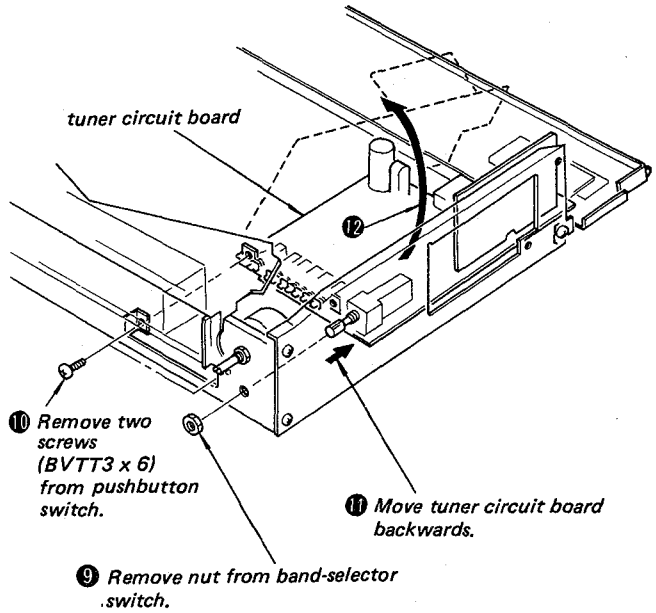
TUNER BOARD

❸ *Remove connector from program-sensor unit.*
Note: When reconnecting the connector, connect it with its "A"-row positioned upside.

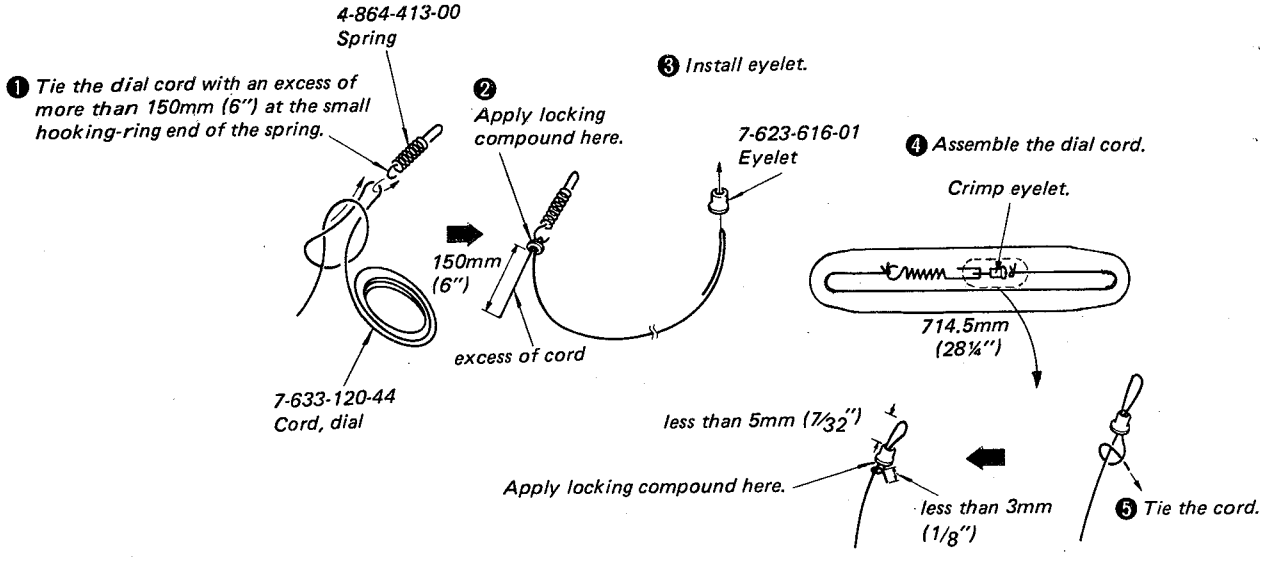

❶ Pull off seven switch knobs.
❹ Remove two plastic rivets.
❼ Remove two screws (BVTT3 x 6) from both top-rear sides.
❷ Remove LED board.
rear panel
❺ Remove two screws (TA, P3 x 8) from tuner circuit board.
❽ Open rear panel from top to bottom.
❼ ❻ Loosen two screws (BVTT3 x 6) at both bottom-rear sides.

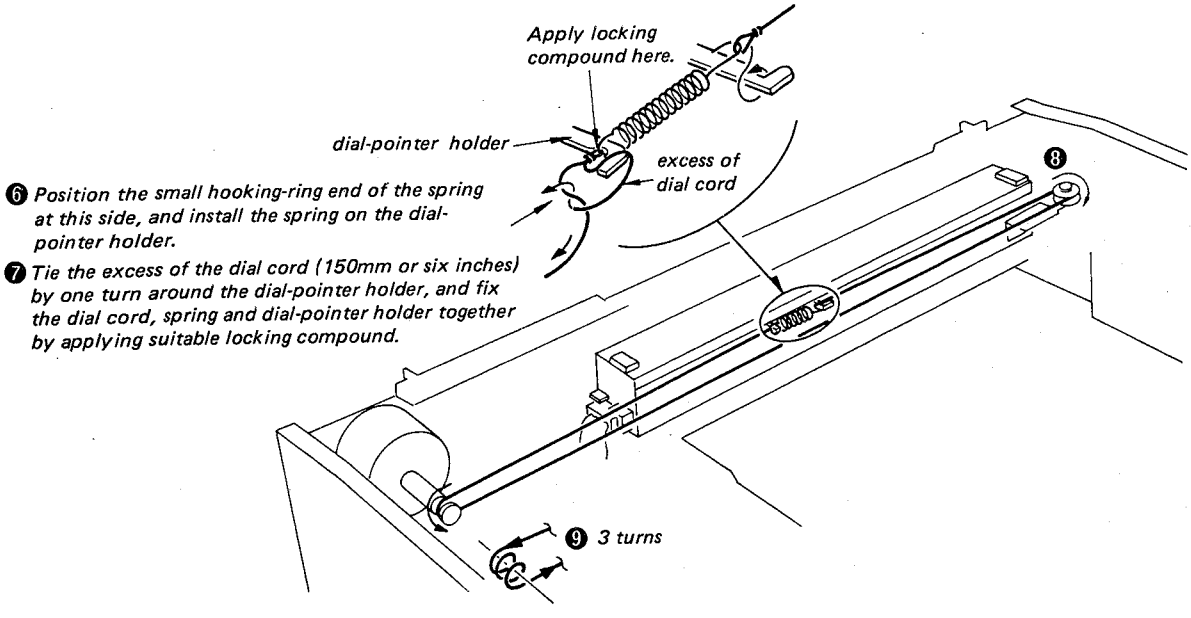
PROGRAM-SENSOR UNIT


light-guide board
❶ Remove two screws (BVTT3 x 6) and light-guide board.
❷ Remove dial pointer from dial-pointer holder.
❸ Remove two screws (BVTP3 x 8).
program-sensor unit
hook
❹ Remove program-sensor unit with dial cord installed from two hooks of the sub panel.


tuner circuit board
⓬
❿ Remove two screws (BVTT3 x 6) from pushbutton switch.
⓫ Move tuner circuit board backwards.
❾ Remove nut from band-selector switch.

2-2. DIAL-CORD STRINGING




Apply locking compound here.
dial-pointer holder
excess of dial cord
❻ Position the small hooking-ring end of the spring at this side, and install the spring on the dial-pointer holder.
❼ Tie the excess of the dial cord (150mm or six inches) by one turn around the dial-pointer holder, and fix the dial cord, spring and dial-pointer holder together by applying suitable locking compound.
❽
❾ 3 turns

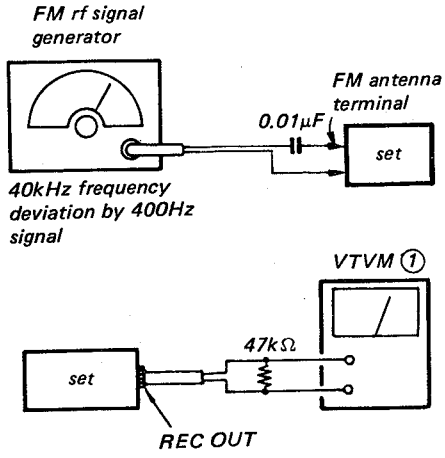
❿ Verify that the dial pointer moves to the right when the TUNING knob is turned clockwise and that the TUNING knob turns smoothly.

SECTION 3
ADJUSTMENTS

FM SECTION

Setting:

MANUAL TUNING switch:	ON
Band Selector:	FM
MODE switch:	MONO



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM FRONT-END BLOCK

Adjustment is not necessary. But if it has been meddled with in some way, and if the adjustment is necessary by all means, adjust the FM front-end block as follows.

FM FREQUENCY COVERAGE ADJUSTMENT 1

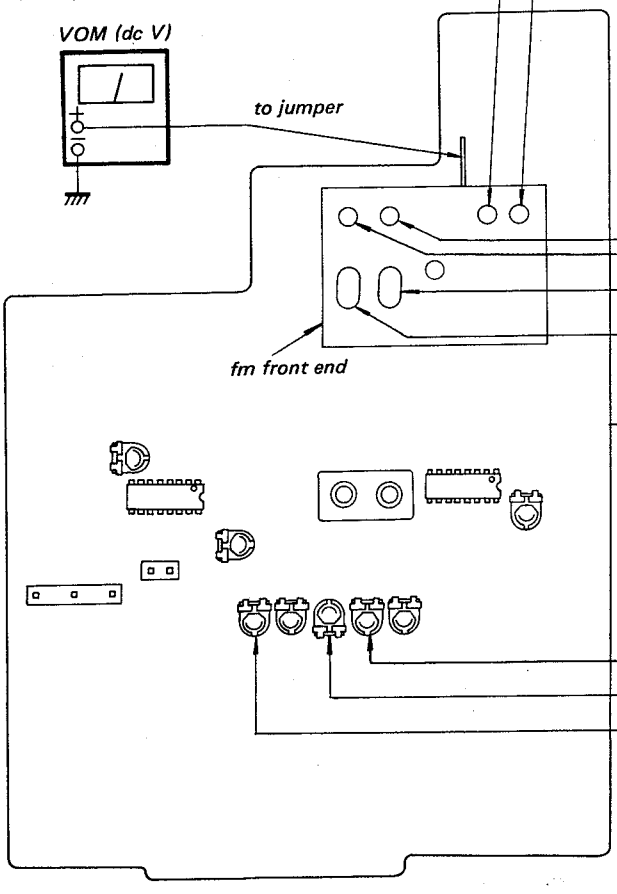
1) Be sure to perform this adjustment before the FM frequency coverage adjustment 2.

TUNING CONTROL VOLTAGE ADJUSTMENT		
Adjustment Part	Dial Indication	VOM Reading
RT205	lowest frequency	2.8V
RT204	98MHz	8.0V
RT203	highest frequency	22.5V
Adjust for a specified reading on VTVM ②.		

LOCAL OSCILLATOR FREQUENCY ADJUSTMENT		
Adjustment Part	Dial Indication	FM Rf Signal Generator Frequency
CT3	highest frequency	108MHz
T2	lowest frequency	88MHz
Adjust for a maximum reading on VTVM ①.		

2) Be sure to perform this adjustment after the FM frequency coverage adjustment 2.

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM ①.	
CT2	108MHz
CT1	
L4	88MHz
L2	



FM FREQUENCY COVERAGE ADJUSTMENT 2		
Adjust	FM Rf Signal Generator Frequency	Dial Indication
RT205	88MHz	88MHz
RT204	98MHz	98MHz
RT203	108MHz	108MHz
Adjust for a maximum reading on VTVM ①.		

FM DISCRIMINATOR ALIGNMENT 1

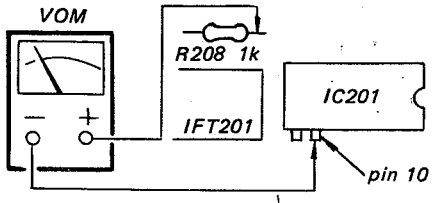
Setting:

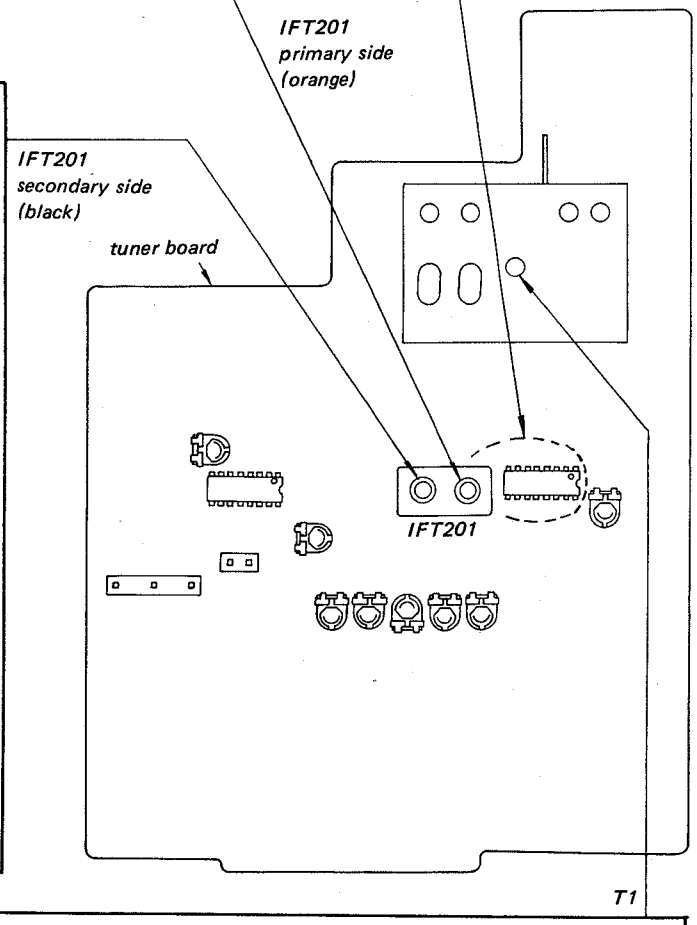
MANUAL TUNING switch:	ON
Band Selector:	FM
MODE switch:	MONO
TUNING:	Detuned position

Procedure:

Adjust the orange core (primary-side) of IFT201 for 0V dc reading on VOM.

Note: When replacing the ceramic filter (CF201), perform this alignment.

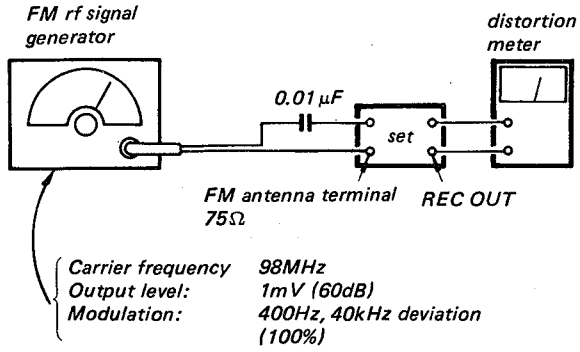




FM DISCRIMINATOR ALIGNMENT 2

Setting:

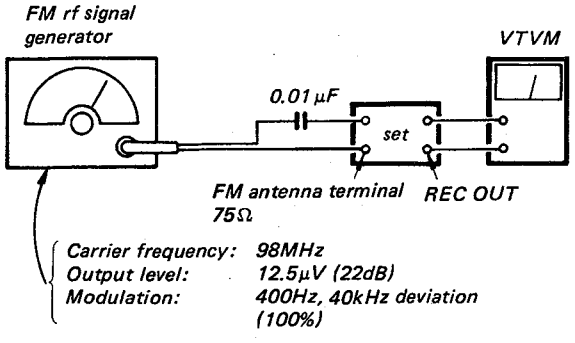
MANUAL TUNING switch:	ON
Band Selector:	FM
MODE switch:	MONO



Procedure:

Adjust the black core (secondary side) of IFT201 for minimum distortion.

FM IF ALIGNMENT



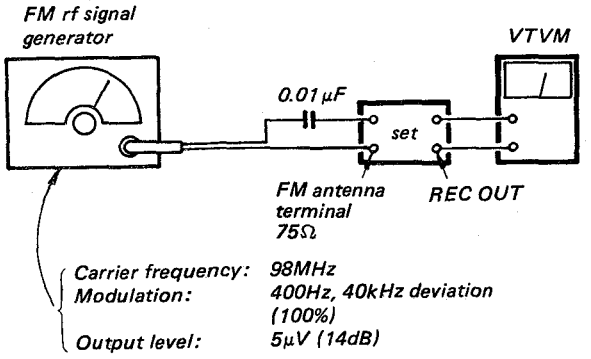
Setting:

MANUAL TUNING switch:	ON
Band Selector:	FM
MODE switch:	MONO

Procedure:

Adjust T1 for maximum reading on the VTVM.

MUTING LEVEL ADJUSTMENT



Setting:

MANUAL TUNING switch: ON
MODE switch: STEREO

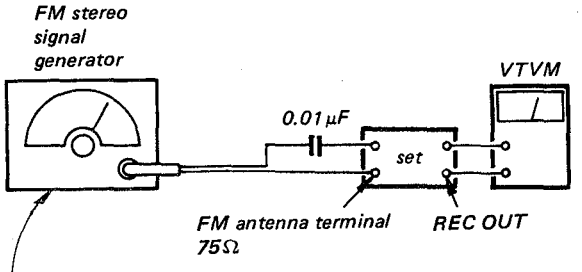
Procedure:

1. Turn RT208 and stop it just when the VTVM indication suddenly increases.
2. If necessary, turn RT208 fully clockwise and make sure that the VTVM indication increases when the output level of the FM rf signal generator is set to 16μV (24dB).

FM STEREO SEPARATION ADJUSTMENT

Setting:

MANUAL MUTING switch: ON
Band Selector: FM
MODE switch: STEREO

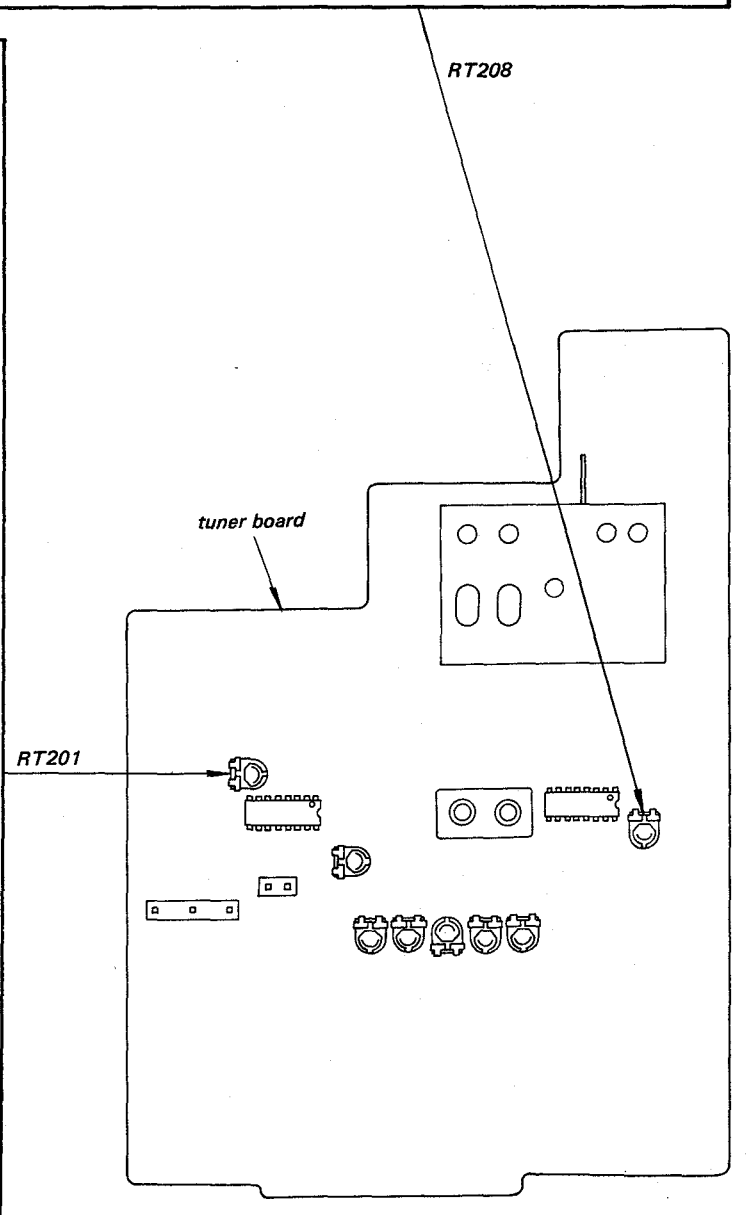


Carrier frequency: 98MHz
Output level: 1mV (60dB)
Modulation:
Audio (400Hz): 16.25kHz deviation (40%)
Pilot (19kHz): 7.5kHz deviation (19%)
Sub channel (38kHz): 16.25kHz deviation (40%)

Procedure:

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RT201 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RT201 for minimum reading.

L-CH Stereo separation: Ⓐ – Ⓑ
R-CH Stereo separation: Ⓒ – Ⓓ
The difference between separations Ⓐ→Ⓑ and Ⓒ→Ⓓ are to be equal.

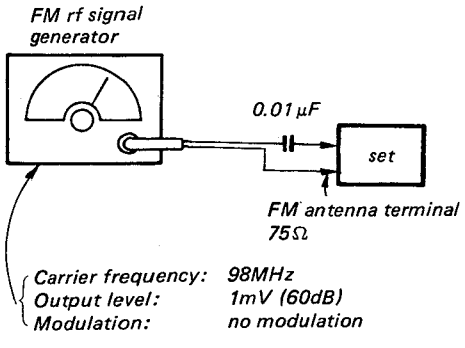


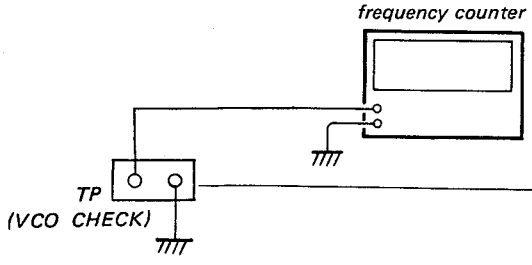
19kHz VCO ADJUSTMENT

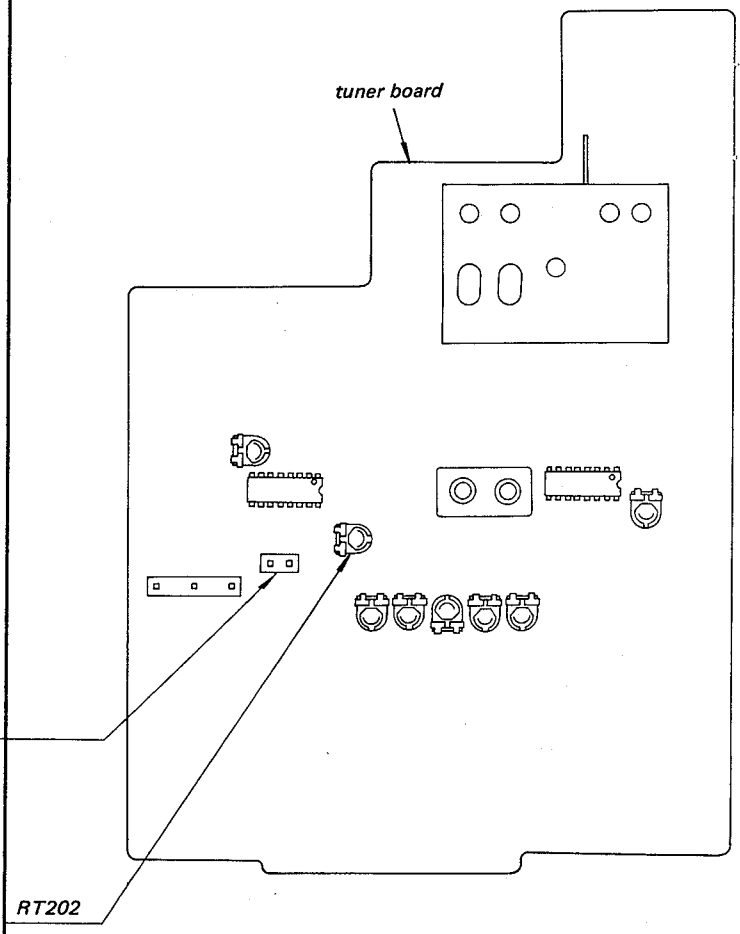
Setting:

FUNCTION switch:	TUNER
Band Selector:	FM
MODE switch:	STEREO

A) Regular Method





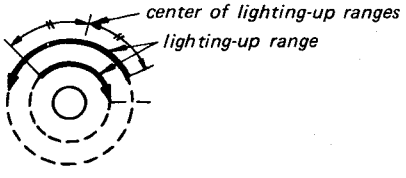


Procedure:

Adjust RT202 for 19kHz ±50Hz on the frequency counter.

B) Simple Method

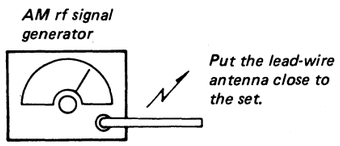
1. Tune the set to the FM stereo broadcasting signal.
2. Turn RT202 clockwise or counterclockwise and memorize the lighting-up ranges of STEREO lamp.
3. Secure RT202 at the center of the overlapped lighting-up range in both turning directions as shown below.

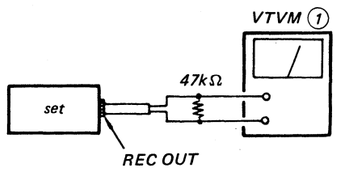


AM SECTION

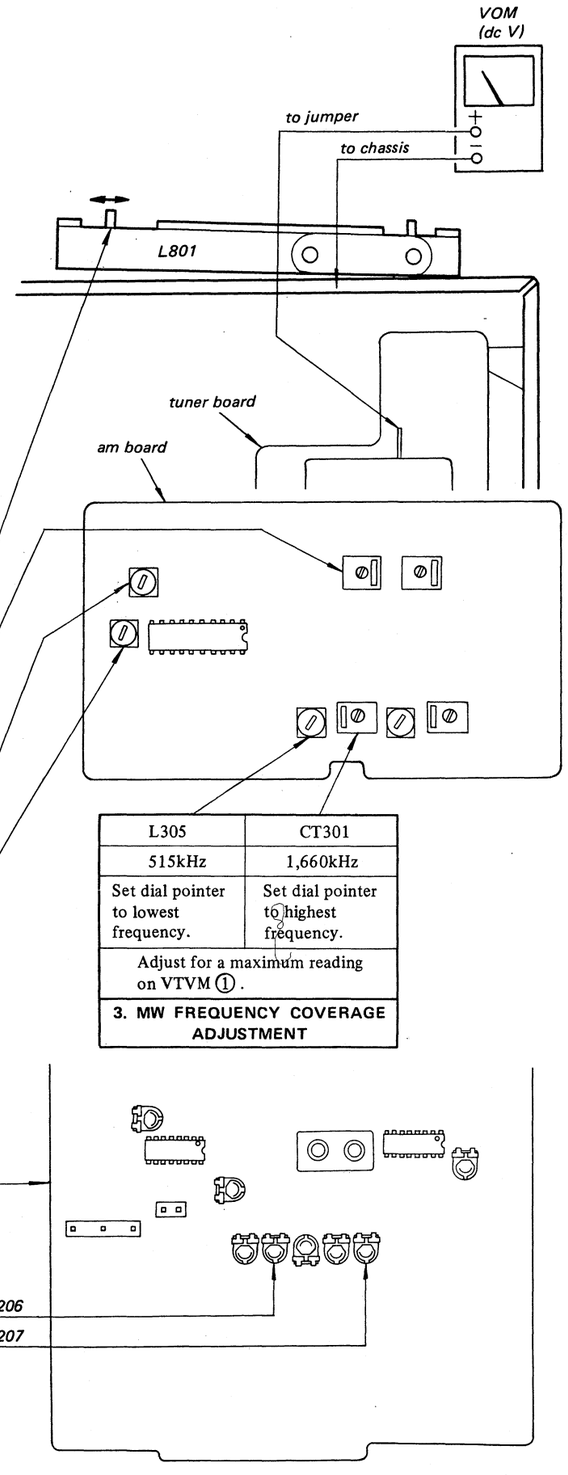
(1) Setting:

MANUAL TUNING switch: ON
Band Selector: MW





- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.



4. MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM ①.	
600kHz	L801
1,400kHz	CT303

1. AM IF ALIGNMENT	
Adjust for a maximum reading on VTVM ①.	
450kHz	T301, T302

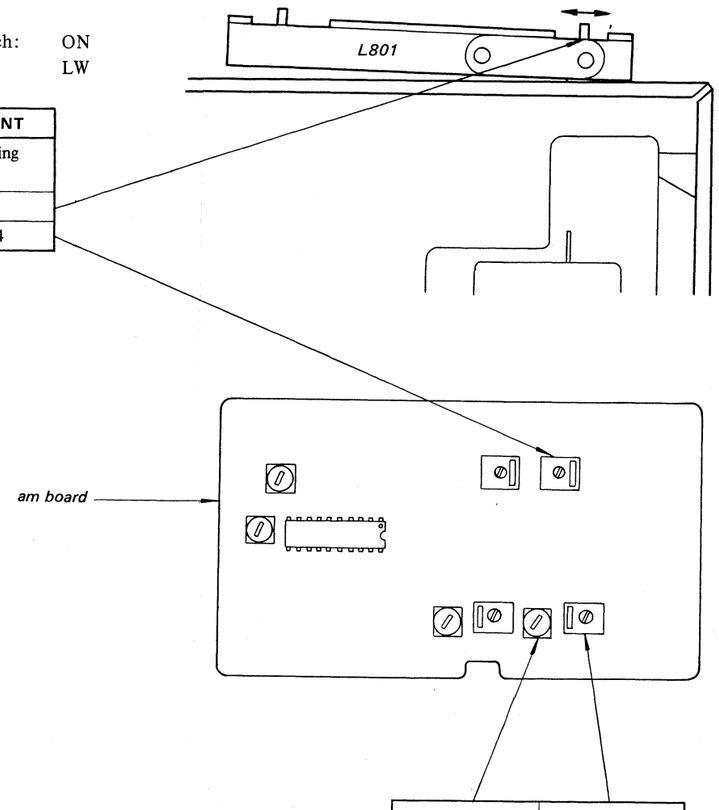
L305	CT301
515kHz	1,660kHz
Set dial pointer to lowest frequency.	Set dial pointer to highest frequency.
Adjust for a maximum reading on VTVM ①.	
3. MW FREQUENCY COVERAGE ADJUSTMENT	

2. AM TUNING VOLTAGE ADJUSTMENT		
Dial Indication	VOM Reading	Adjust
highest frequency	25V	RT206
lowest frequency	1V	RT207

(2) Setting:

MANUAL TUNING switch: ON
Band Selector: LW

LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM ①.	
170kHz	L801
310kHz	CT304

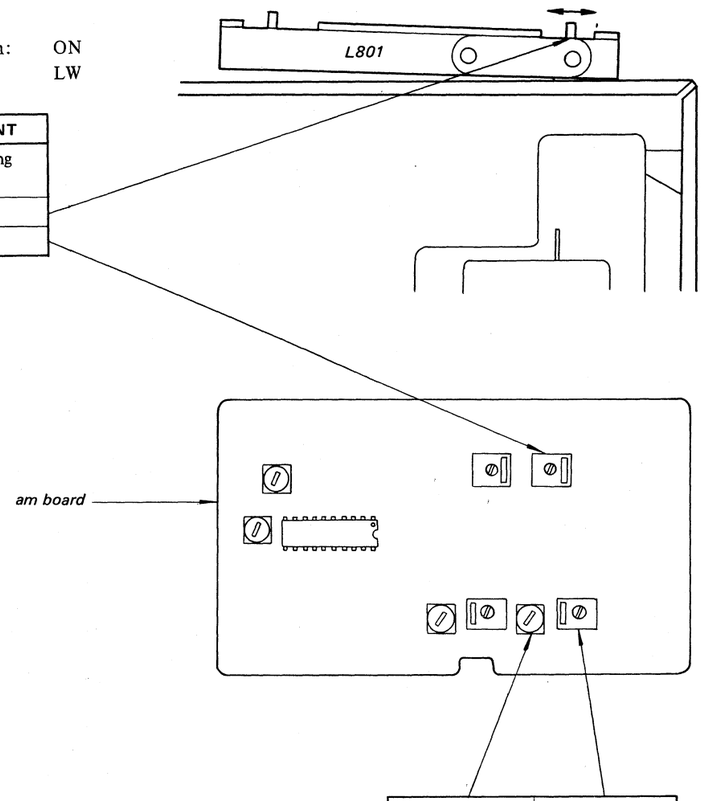


L306	CT302
145kHz	365kHz
Set dial pointer to lowest frequency.	Set dial pointer to highest frequency.
Adjust for a maximum reading on VTVM ①.	
LW FREQUENCY COVERAGE ADJUSTMENT	

(2) Setting:

MANUAL TUNING switch: ON
Band Selector: LW

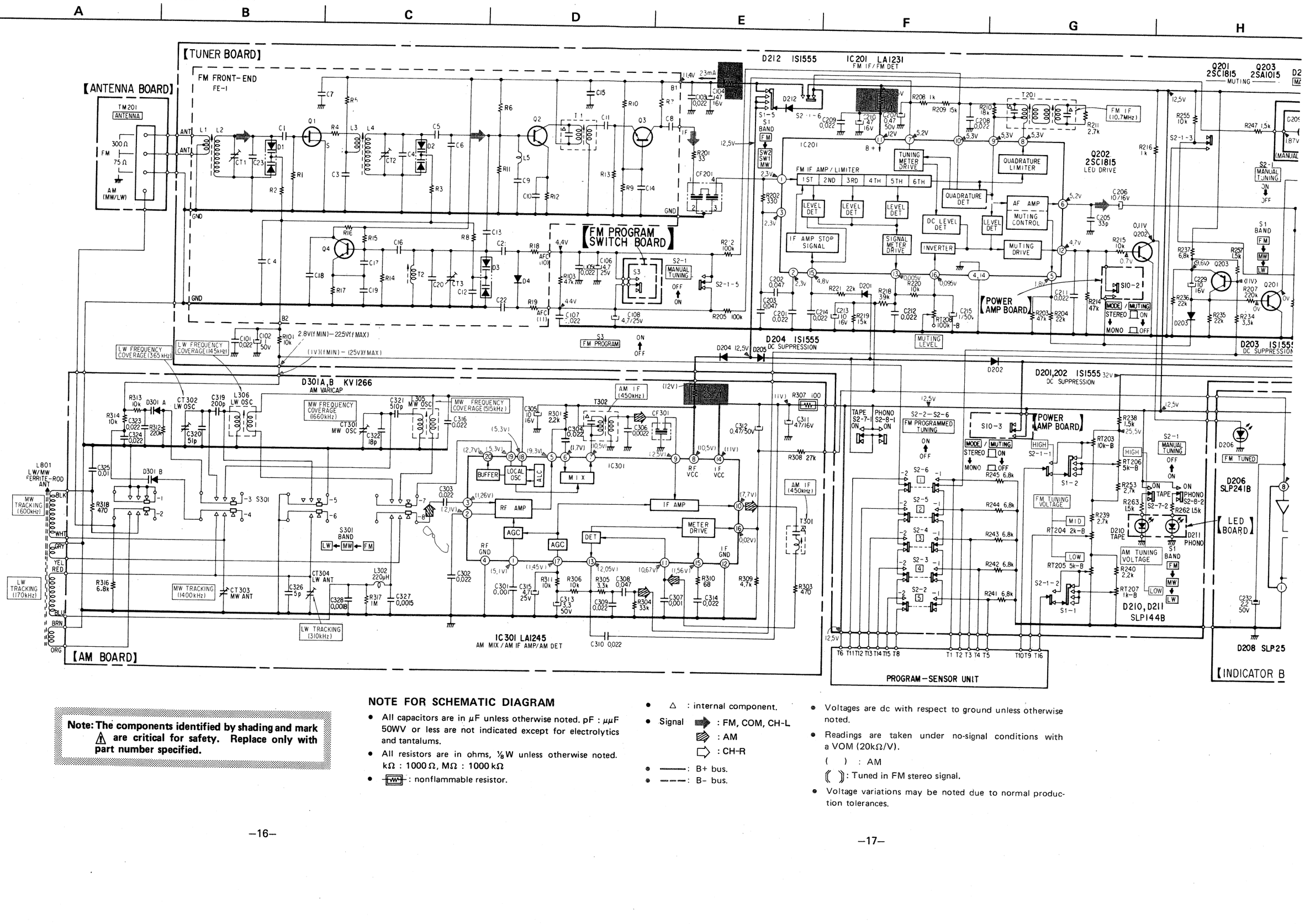
LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM ①.	
170kHz	L801
310kHz	CT304



L306	CT302
145kHz	365kHz
Set dial pointer to lowest frequency.	Set dial pointer to highest frequency.
Adjust for a maximum reading on VTVM ①.	
LW FREQUENCY COVERAGE ADJUSTMENT	

MEMO

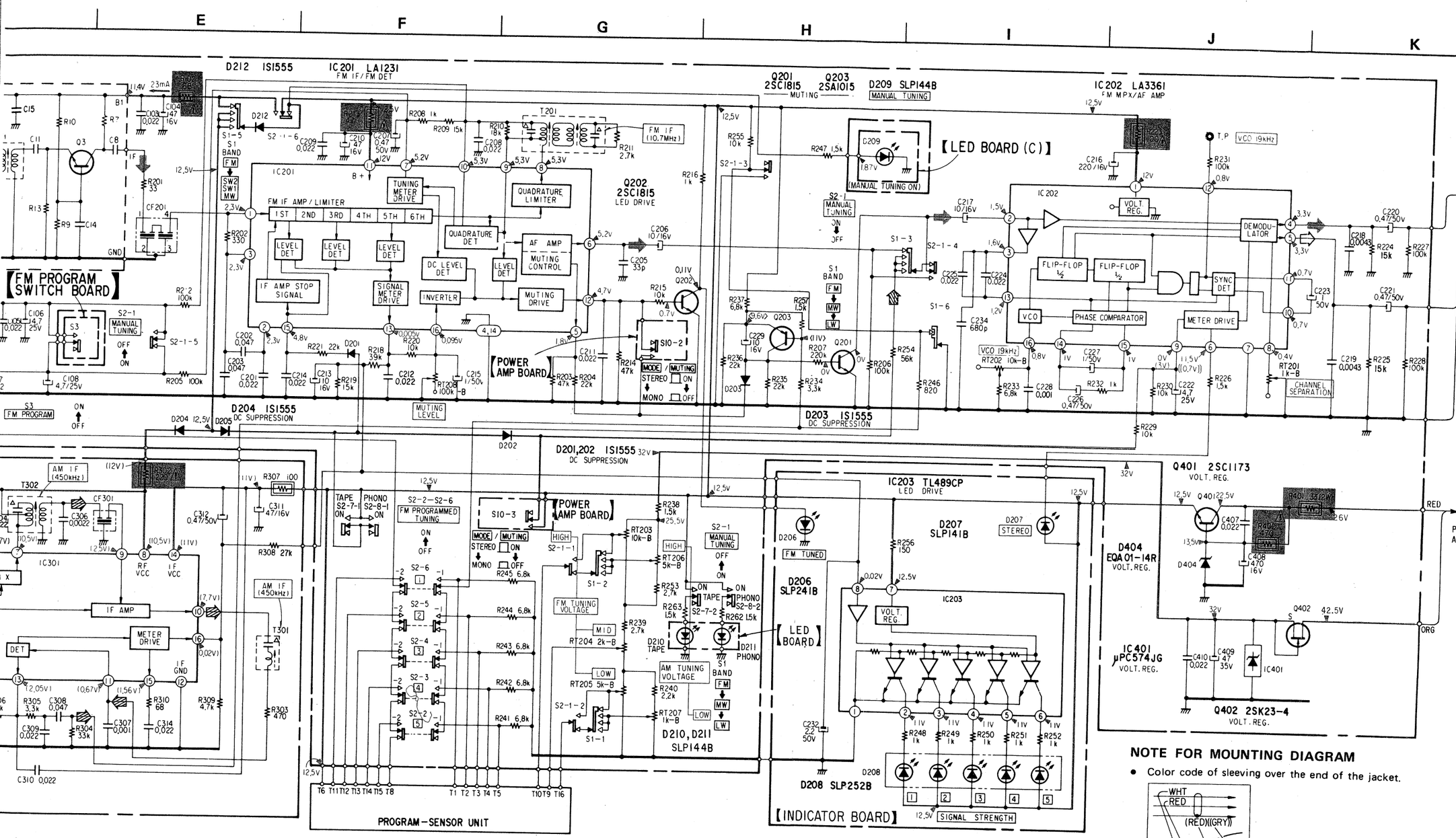
4-1. SCHEMATIC DIAGRAM – TUNER SECTION –



Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

NOTE FOR SCHEMATIC DIAGRAM

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ⅛W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- : nonflammable resistor.
- △ : internal component.
- Signal : FM, COM, CH-L
  : AM
  : CH-R
- : B+ bus.
- : B- bus.
- Voltages are dc with respect to ground unless noted.
- Readings are taken under no-signal conditions with a VOM (20kΩ/V).
  ( ) : AM
  《 》: Tuned in FM stereo signal.
- Voltage variations may be noted due to normal production tolerances.

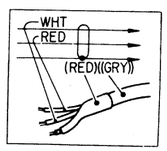


- △ : internal component.
- Signal ➡ : FM, COM, CH-L
  ▨ : AM
  ⇨ : CH-R
- ——: B+ bus.
- – – –: B– bus.

- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (20kΩ/V).
  ( ) : AM
  《 》: Tuned in FM stereo signal.
- Voltage variations may be noted due to normal production tolerances.

NOTE FOR MOUNTING DIAGRAM

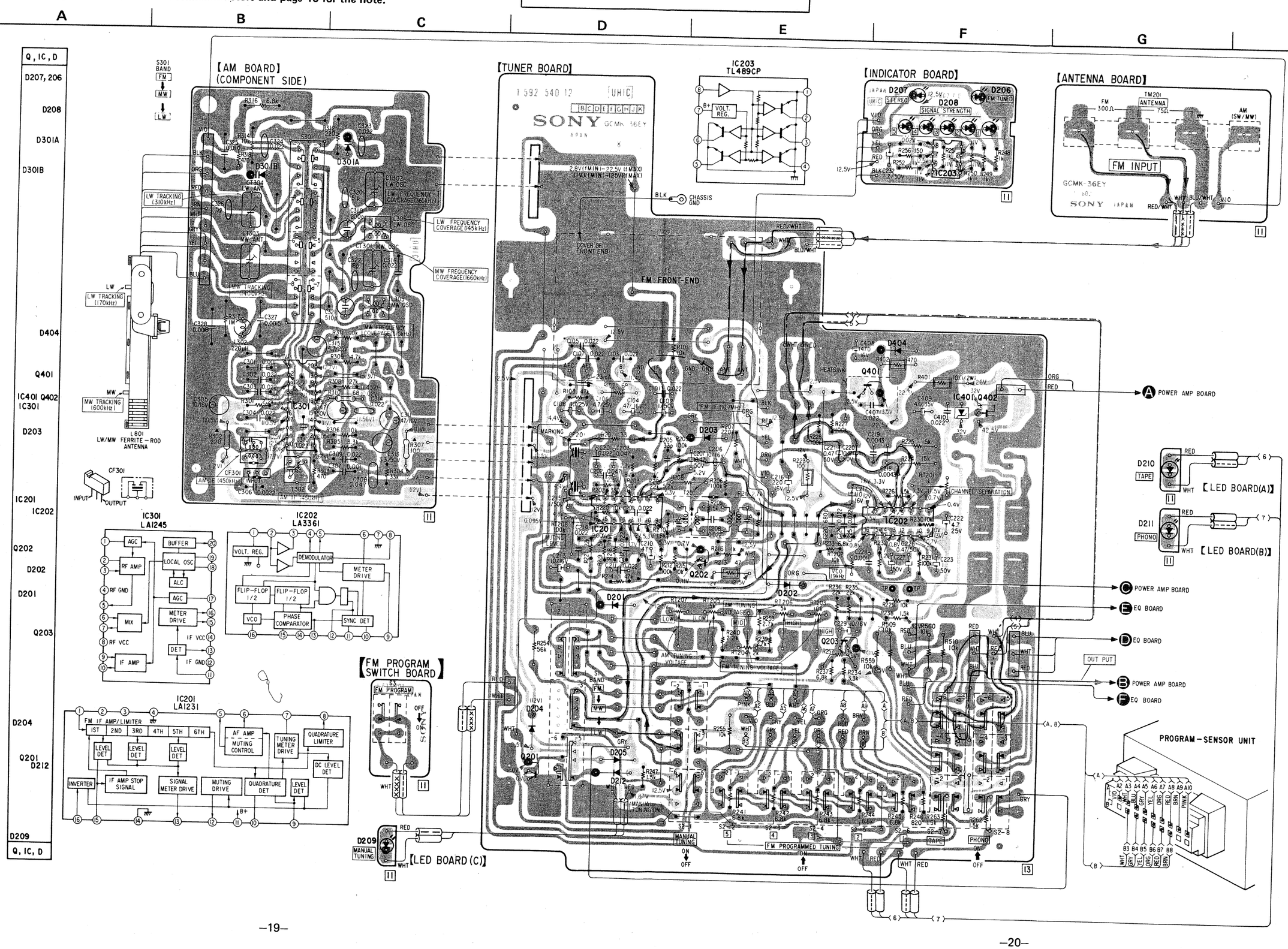
- Color code of sleeving over the end of the jacket.



- ○—: parts extracted from the component side.
- ●—: parts extracted from the conductor side.
- ⊣⊢: indicates side identified with part number.
- ▒: B+ pattern
- ➡: signal path
- ➡: L-CH signal path
- ➡: R-CH signal path

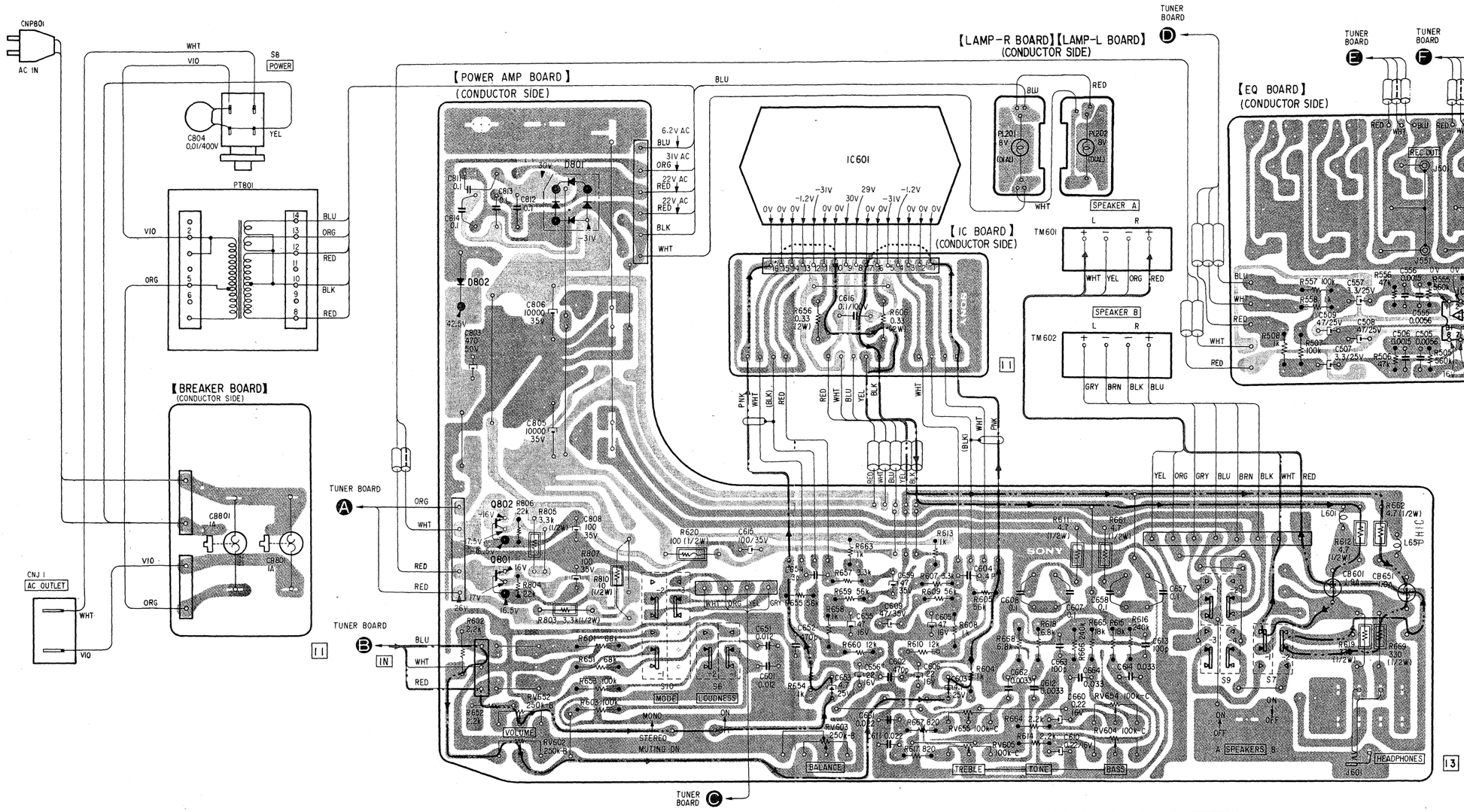
4-2. MOUNTING DIAGRAM – TUNER SECTION –

Refer to page 25 for replacement semiconductors and page 18 for the note.

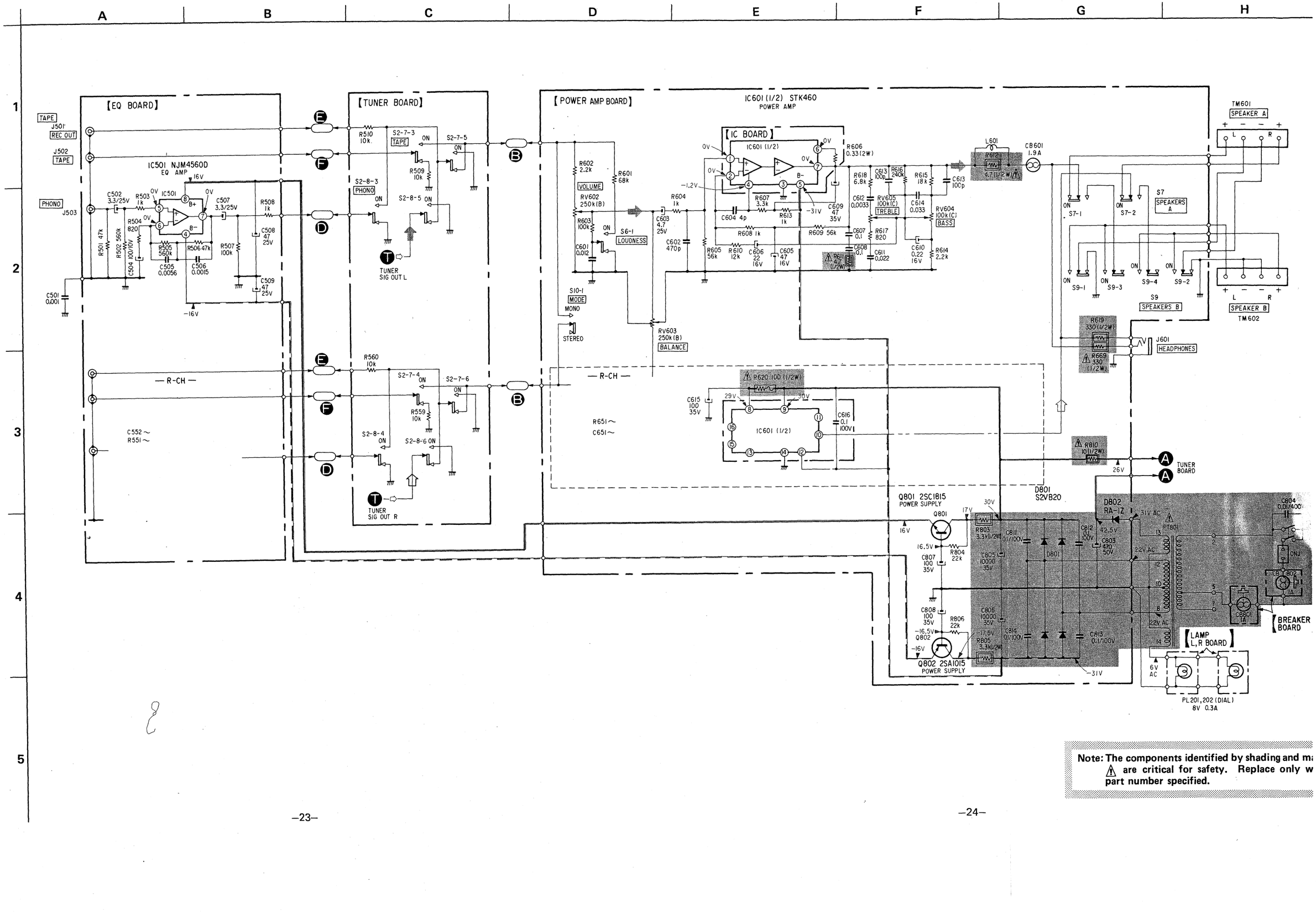


4-3. MOUNTING DIAGRAM – AUDIO AMP SECTION –

Refer to page 25 for replacement semiconductor and the note.


CNP801
AC IN
WHT
VIO
SB
POWER
C804
0.01/400V
YEL
PT801
VIO
ORG
BLU
ORG
RED
BLK
RED
【BREAKER BOARD】
(CONDUCTOR SIDE)
CB801
1A
CB801
1A
CNJ 1
AC OUTLET
WHT
VIO
VIO
ORG
【POWER AMP BOARD】
(CONDUCTOR SIDE)
BLU
6.2V AC
BLU
31V AC
ORG
22V AC
RED
22V AC
RED
BLK
WHT
D801
30V
-31V
C811
0.1
C813
0.1
C812
0.1
C814
0.1
D802
42.5V
C806
10000
35V
C803
270
50V
C805
10000
35V
TUNER BOARD
A
ORG
WHT
RED
RED
Q802
Q801
R806
22k
R805
3.3k
(1/2W)
C808
100
35V
R807
100
2.2V
R810
10
(1/2W)
R804
22
R803
3.3k(1/2W)
16V
16V
7.5V
6.5V
26V
17V
16.5V
R620
100 (1/2W)
C615
100/35V
TUNER BOARD
B
BLU
WHT
RED
IN
R699
2.2k
R601
68
R651
68
R658
100k
RV602
250K-B
R652
2.2k
VOLUME
R603
100k
RV603
250k-B
STO
MODE
LOUDNESS
MONO
STEREO
MUTING ON
ON
OFF
S6
C651
0.012
C601
0.012
C654
0.012
C611
0.022
BALANCE
TUNER BOARD
C
【IC BOARD】
(CONDUCTOR SIDE)
IC601
0V 0V 0V
-3IV
-1.2V
0V 0V
30V
0V 0V
-3IV
-1.2V
0V 0V 0V
C616
0.1/100V
R606
0.33
(2W)
R656
0.33
(2W)
PINK
WHT
(BLK)
RED
RED
WHT
BLU
YEL
BLK
WHT
WHT
(BLK)
PINK
【LAMP-R BOARD】【LAMP-L BOARD】
(CONDUCTOR SIDE)
BLU
RED
PL201
8V
(DIAL)
PL202
8V
(DIAL)
WHT
SPEAKER A
TM601
L
R
WHT
YEL
ORG
RED
SPEAKER B
TM602
L
R
GRY
BRN
BLK
BLU
TUNER BOARD
D
TUNER BOARD
E
TUNER BOARD
F
【EQ BOARD】
(CONDUCTOR SIDE)
RED
WHT
BLU
RED
WHT
BLU
REC OUT
J501
TAPE
J502
PHONO
J503
C501
0.001
J551
J552
J553
J554
R557 100
R556 47
C557 3.3/25V
C556 0.0056
R555 560
C555 0.0056
R554 820
C554 100/10V
C553 3.3/25V
R553 1k
R552 560
R551 1k
R550 560
C550 0.0056
C551 0.0056
C552 100/10V
C550 3.3/25V
C509 47/25V
C508 47/25V
C506 0.0056
C505 0.0056
R508 1k
R507 100
C507 3.3/25V
R506 47
R505 560
R504 820
C504 100/10V
C503 3.3/25V
R503 1k
R502 560
R501 1k
R500 560
C501
C502
C503
C504
C505
C506
C507
C508
C509
R501
R502
R503
R504
R505
R506
R507
R508
C501
0V
0V
0V

4-4. SCHEMATIC DIAGRAM – AUDIO AMP SECTION –

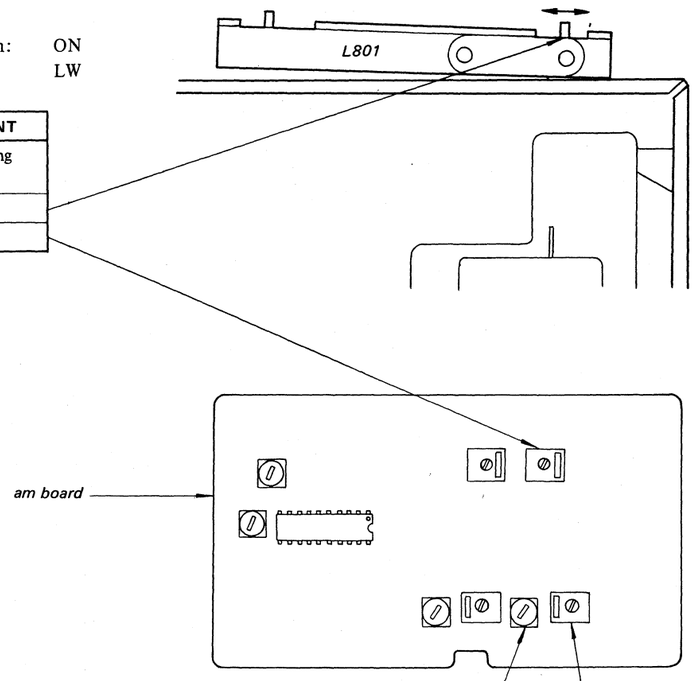


Note: The components identified by shading and ma
⚠ are critical for safety. Replace only w
part number specified.

(2) Setting:

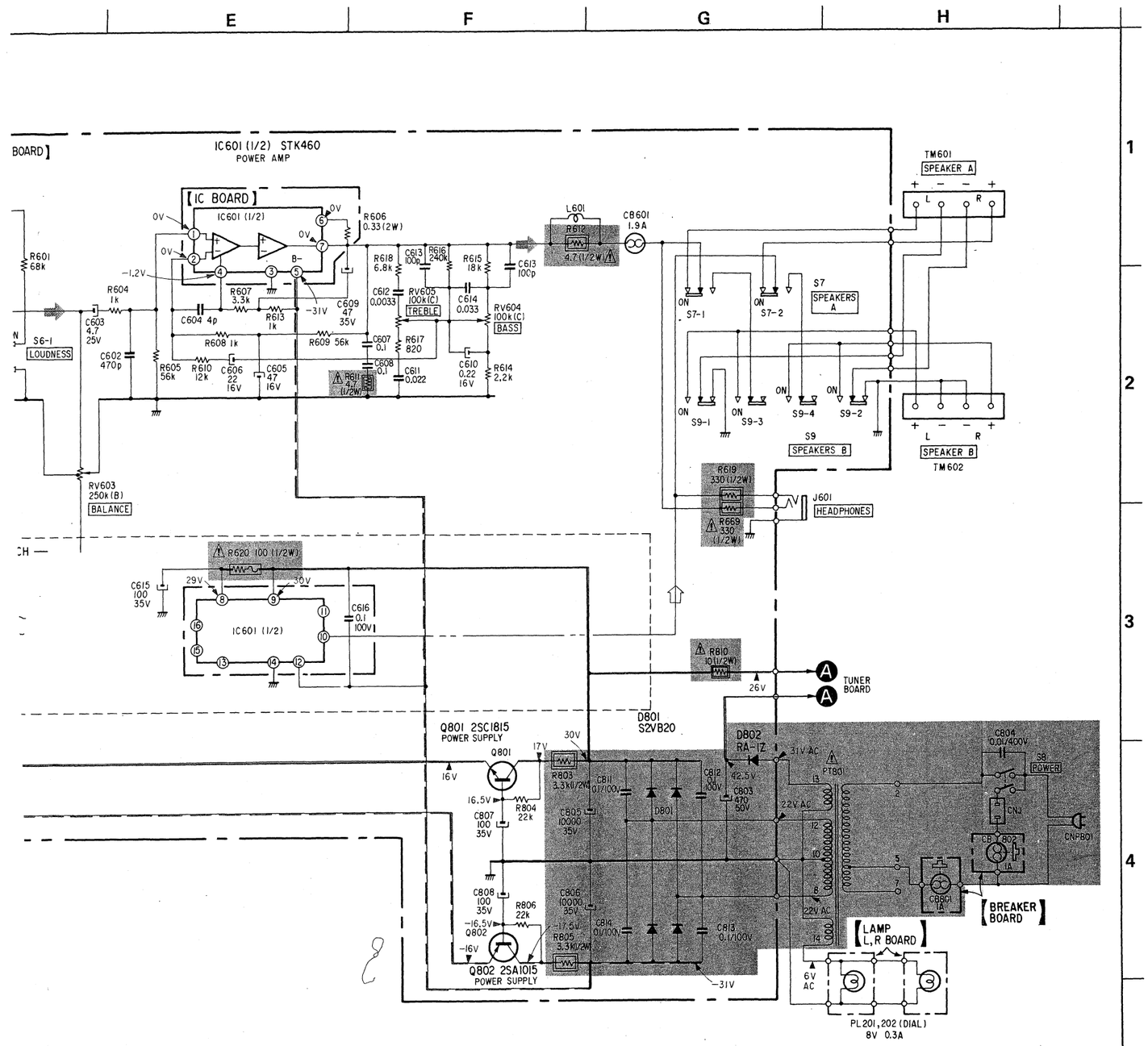
MANUAL TUNING switch: ON
Band Selector: LW

LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM ①.	
170kHz	L801
310kHz	CT304



L306	CT302
145kHz	365kHz
Set dial pointer to lowest frequency.	Set dial pointer to highest frequency.
Adjust for a maximum reading on VTVM ①.	
LW FREQUENCY COVERAGE ADJUSTMENT	

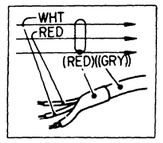
MEMO



Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

NOTE FOR MOUNTING DIAGRAM:

- Color code of sleeving over the end of the jacket.



- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- [ ]— : indicates side identified with part number.
- ▒ : B+ pattern
- ▒ : B- pattern
- ●▬▶▬● : signal path
- ●▬▶▬● : L-CH signal path
- ●▬▶▬● : R-CH signal path

NOTE FOR SCHEMATIC DIAGRAM:

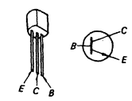
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ⅛W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- ⚠ : nonflammable resistor.
- △ : internal component.
- ——— : B+ bus.
- – – – : B- bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (20kΩ/V).

  ( ) : AM
- Voltage variations may be noted due to normal production tolerances.
- Signal ➡ : FM, COM, CH-L
  ⇨ : CH-R

Replacement Semiconductors

For replacement, use semiconductors except in ( ).

Q201, 202: 2SC1364 (2SC1815)



Q203: 2SA1015

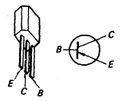
Q401: 2SC1173

Q402: 2SK105A

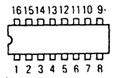
2SK23

Q801: 2SC1364 (2SC1815)

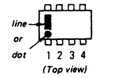
Q802: 2SA1015



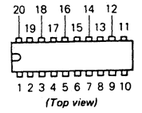
IC201: LA1231
IC202: LA3361



IC203: TL489CP



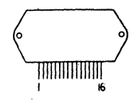
IC301: LA1245



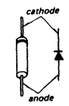
IC401: μPC574J

IC501: NJM4560D-D (NJM4560)

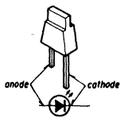
IC601: STK460



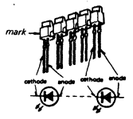
D201–204: 1S1555



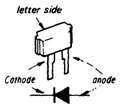
D206: SLP241B
D207: SLP141B
D209, 210, D211: SLP144B



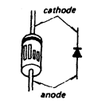
D208: SLP252B-06 (SLP252B)



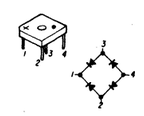
D301A, B: KV1226



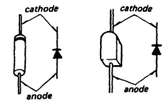
D404: EQB01-14 (EQA01-14R)



D801: S2VB20



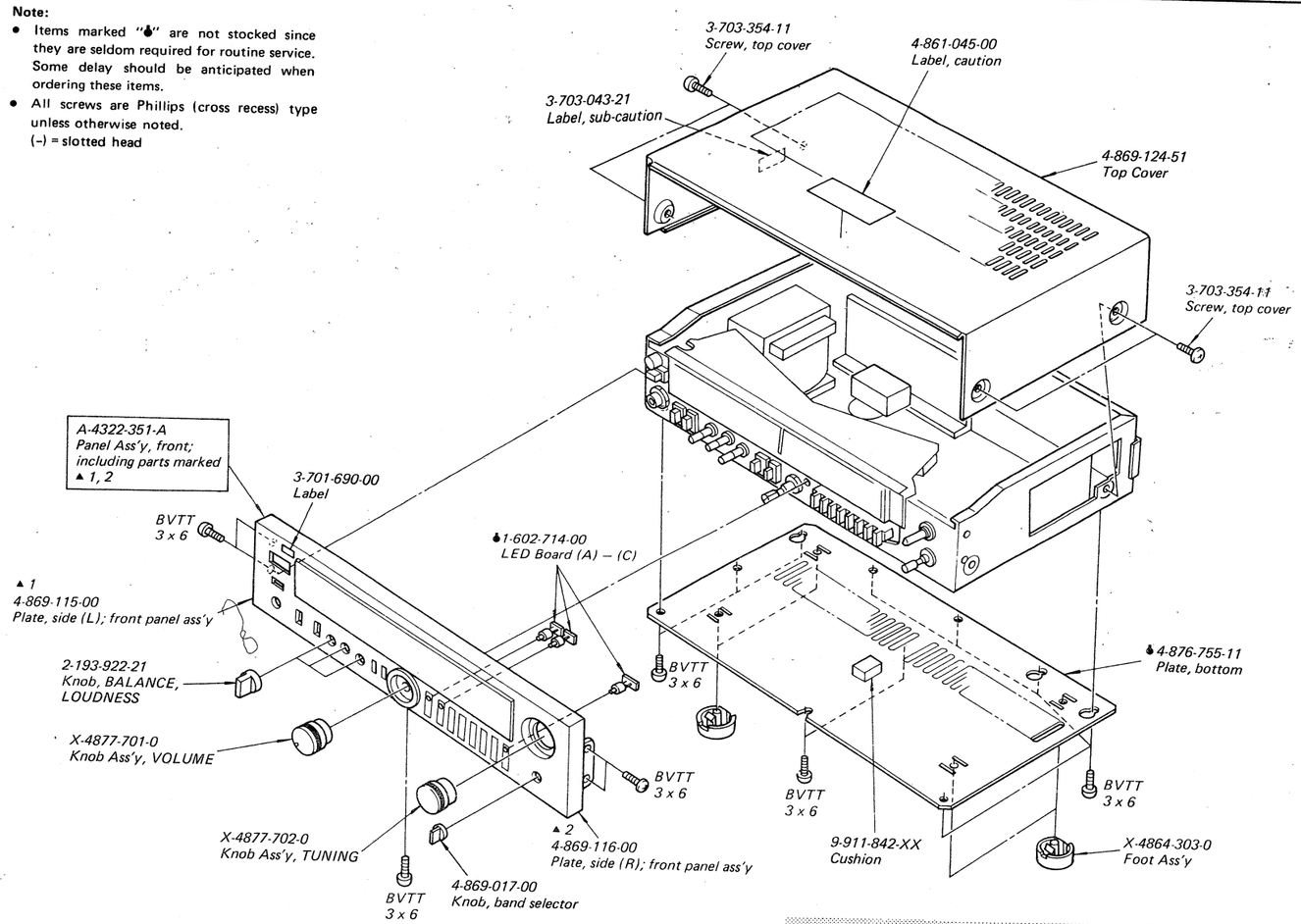
D802: 10E2 (RA-1Z)



Note:

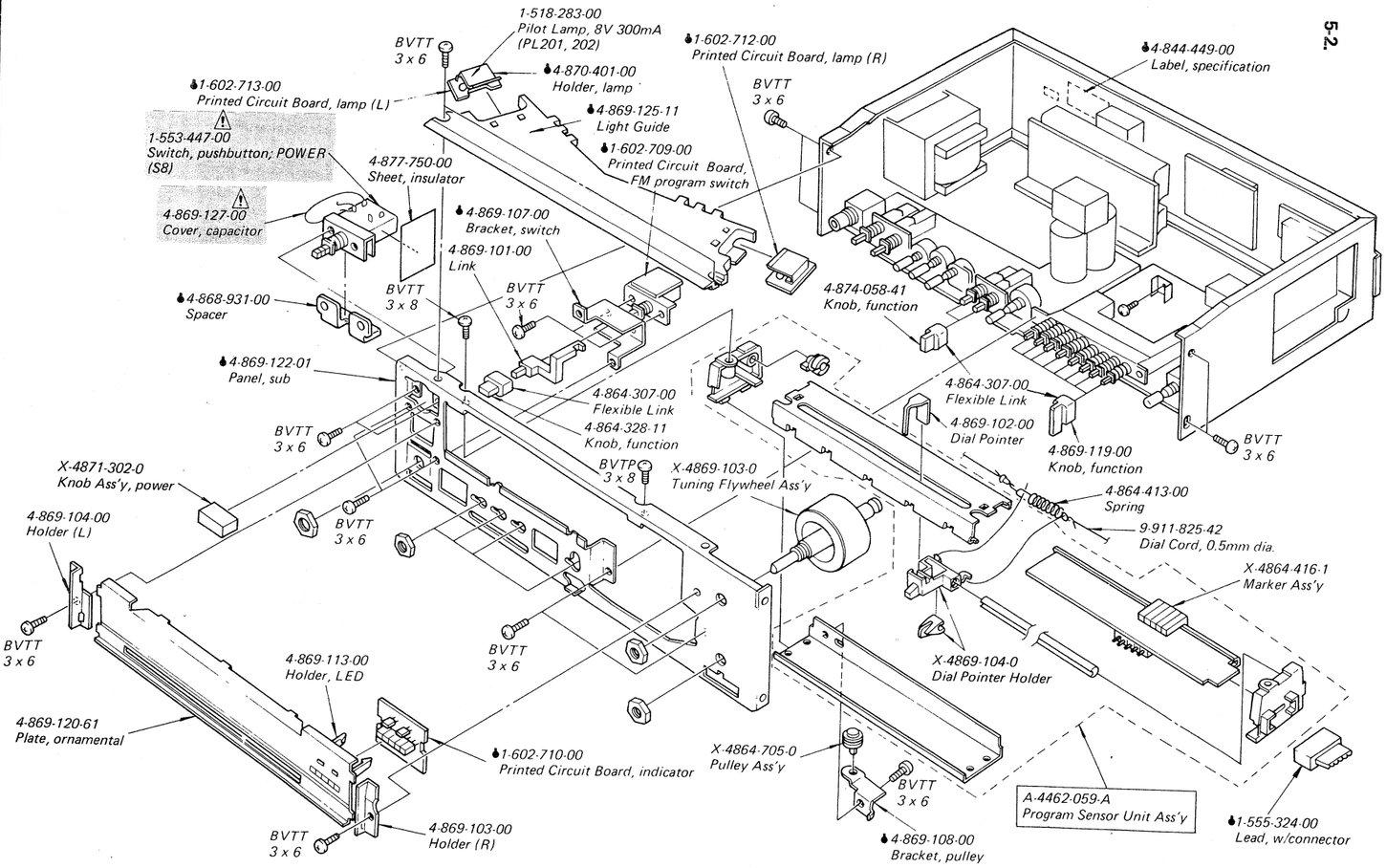
- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head

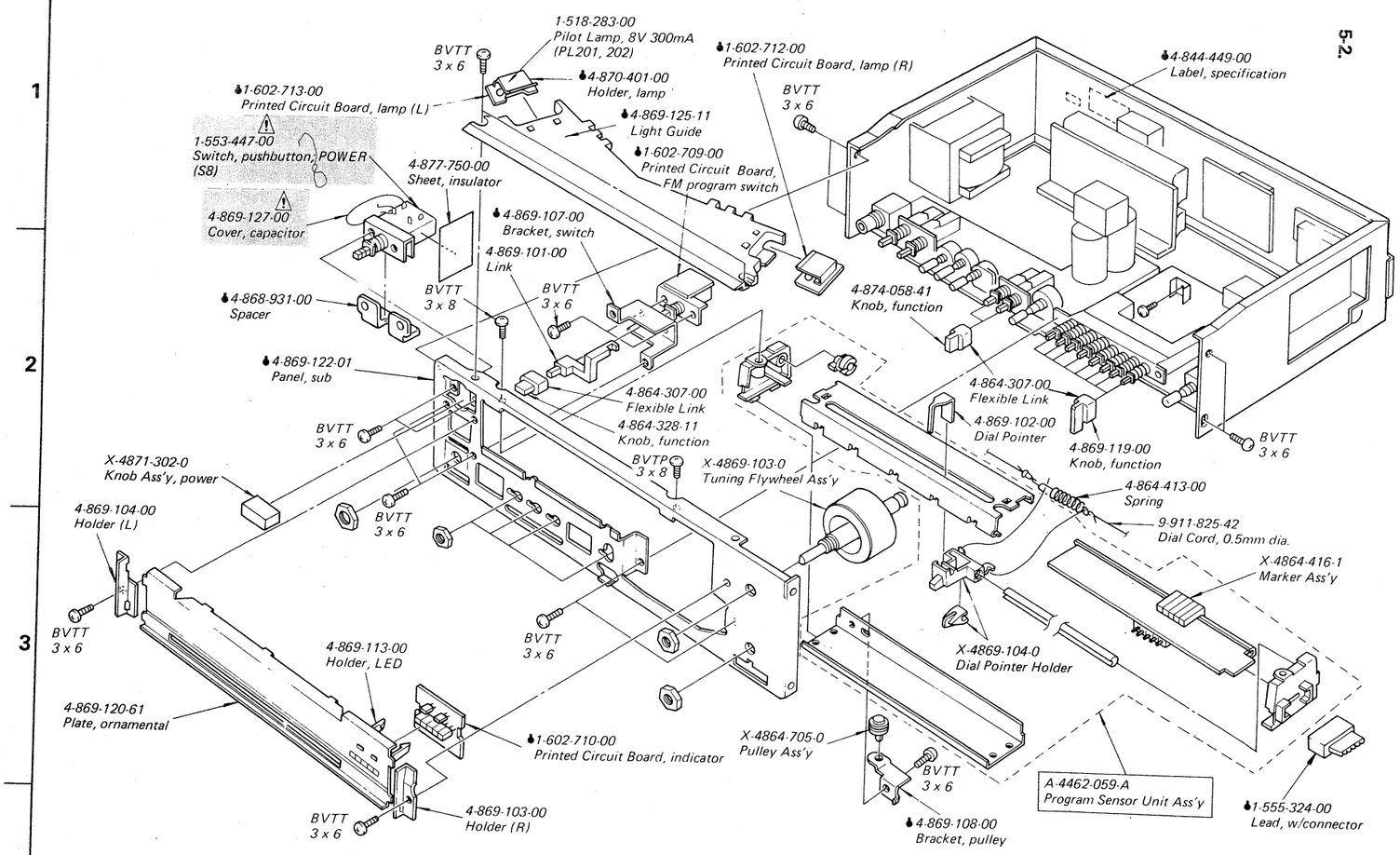
5-1.

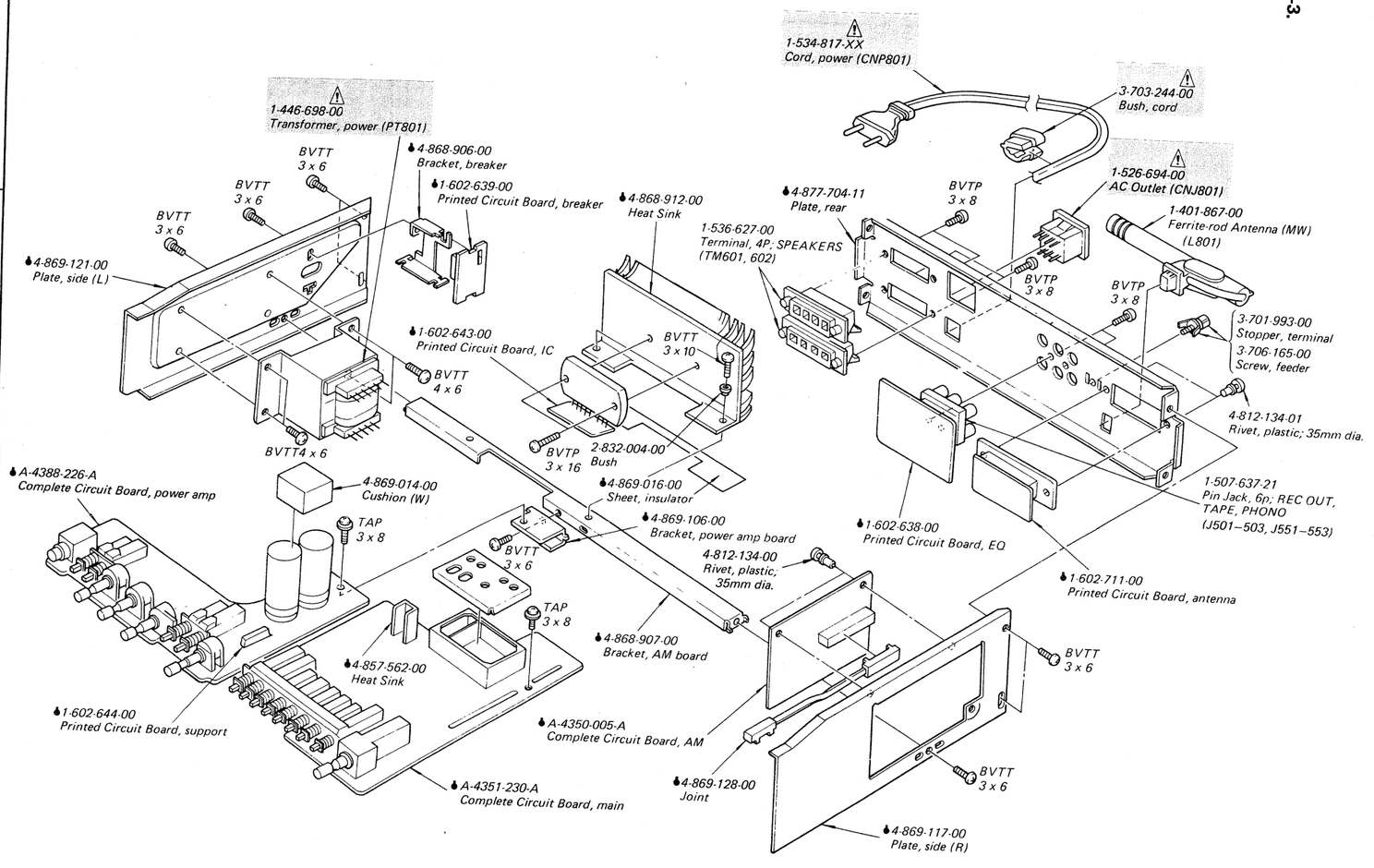


Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

5-2.




1-518-283-00
Pilot Lamp, 8V 300mA
(PL201, 202)
BVTT
3 x 6
♦1-602-712-00
Printed Circuit Board, lamp (R)
♦4-844-449-00
Label, specification
♦1-602-713-00
Printed Circuit Board, lamp (L)
♦4-870-401-00
Holder, lamp
♦4-869-125-11
Light Guide
1-553-447-00
Switch, pushbutton, POWER
(S8)
♦1-602-709-00
Printed Circuit Board,
FM program switch
4-877-750-00
Sheet, insulator
4-869-127-00
Cover, capacitor
♦4-869-107-00
Bracket, switch
4-869-101-00
Link
BVTT
3 x 8
BVTT
3 x 6
♦4-868-931-00
Spacer
4-874-058-41
Knob, function
♦4-869-122-01
Panel, sub
4-864-307-00
Flexible Link
4-864-328-11
Knob, function
4-864-307-00
Flexible Link
4-869-102-00
Dial Pointer
4-869-119-00
Knob, function
BVTP
3 x 8
X-4869-103-0
Tuning Flywheel Ass'y
X-4871-302-0
Knob Ass'y, power
4-864-413-00
Spring
9-911-825-42
Dial Cord, 0.5mm dia.
4-869-104-00
Holder (L)
X-4864-416-1
Marker Ass'y
X-4869-104-0
Dial Pointer Holder
4-869-113-00
Holder, LED
4-869-120-61
Plate, ornamental
♦1-602-710-00
Printed Circuit Board, indicator
X-4864-705-0
Pulley Ass'y
A-4462-059-A
Program Sensor Unit Ass'y
♦1-555-324-00
Lead, w/connector
♦4-869-108-00
Bracket, pulley
4-869-103-00
Holder (R)


1-534-817-XX
Cord, power (CNP801)
3-703-244-00
Bush, cord
1-446-698-00
Transformer, power (PT801)
♦4-868-906-00
Bracket, breaker
BVTT
3 x 6
♦1-602-639-00
Printed Circuit Board, breaker
♦4-868-912-00
Heat Sink
♦4-877-704-11
Plate, rear
BVTP
3 x 8
1-526-694-00
AC Outlet (CNJ801)
1-536-627-00
Terminal, 4P; SPEAKERS
(TM601, 602)
1-401-867-00
Ferrite-rod Antenna (MW)
(L801)
♦4-869-121-00
Plate, side (L)
♦1-602-643-00
Printed Circuit Board, IC
BVTT
4 x 6
BVTT
3 x 10
3-701-993-00
Stopper, terminal
3-706-165-00
Screw, feeder
BVTT4 x 6
BVTP
3 x 16
2-832-004-00
Bush
4-812-134-01
Rivet, plastic; 35mm dia.
♦A-4388-226-A
Complete Circuit Board, power amp
4-869-014-00
Cushion (W)
♦4-869-016-00
Sheet, insulator
1-507-637-21
Pin Jack, 6p; REC OUT,
TAPE, PHONO
(J501–503, J551–553)
TAP
3 x 8
♦4-869-106-00
Bracket, power amp board
♦1-602-638-00
Printed Circuit Board, EQ
4-812-134-00
Rivet, plastic;
35mm dia.
♦1-602-711-00
Printed Circuit Board, antenna
♦4-868-907-00
Bracket, AM board
♦4-857-562-00
Heat Sink
♦1-602-644-00
Printed Circuit Board, support
♦A-4350-005-A
Complete Circuit Board, AM
♦A-4351-230-A
Complete Circuit Board, main
♦4-869-128-00
Joint
♦4-869-117-00
Plate, side (R)

SECTION 6
ELECTRICAL PARTS LIST

Ref. No.	*Part No.*	*Description*
	SEMICONDUCTORS	
	Transistors	
Q201, 202	8-729-663-47	2SC1364
Q203	8-729-201-52	2SA1015
Q401	8-719-217-33	2SC1173
Q402	8-722-382-04	2SK23A-1
Q801	8-729-663-47	2SC1364
Q802	8-729-201-52	2SA1015
	ICs	
IC201	8-759-812-31	LA1231
IC202	8-759-833-61	LA3361
IC203	8-759-904-89	TL489CP
IC301	8-759-812-45	LA1245
IC401	8-759-157-40	μPC574J
IC501	8-759-745-61	NJM4560D-D
IC601	8-759-846-00	STK460
	Diodes	
D201–204	8-719-815-55	1S1555
D206	8-719-922-41	SLP241B
D207	8-719-900-41	SLP141B
D208	8-719-925-26	SLP252B, LED BLOCK
D209–211	8-719-901-44	SLP144B
D301A, B	8-719-912-27	KV1226
D404	8-719-931-14	EQB01-14
D801	8-719-502-20	S2VB20
D802	8-719-200-02	10E2
	CAPACITORS	

All capacitors in μF. Common capacitors are omitted.
Refer to the lists on pages 31 and 32 for their part numbers.

C803	⚠1-123-516-00	470	50V	elect
C804	⚠1-161-744-00	0.01	400V	ceramic
C805, 806	⚠1-123-642-00	10,000	35V	elect
C811–814	⚠1-108-389-00	0.1	100V	mylar

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	*Part No.*	*Description*
CT301, 303, CT304	1-141-180-00	Trimmer
CT302	1-141-181-11	Trimmer
	RESISTORS	

All resistors are in ohms. Common ¼W carbon resistors are omitted. Refer to the list on page 33 for their part numbers.

R102	⚠1-247-103-00	68	¼W	carbon (nonflammable)
R213	⚠1-247-099-00	47	¼W	carbon (nonflammable)
R223	⚠1-247-107-00	100	¼W	carbon (nonflammable)
R302	⚠1-247-115-00	220	¼W	carbon (nonflammable)
R401	⚠1-206-475-00	10	2W	carbon (nonflammable)
R402	⚠1-247-123-00	470	¼W	carbon (nonflammable)
R606, 656	1-217-152-00	0.33	2W	metal plate
R611, 612, R661, 662	⚠1-247-188-00	4.7	½W	carbon (nonflammable)
R619	⚠1-247-228-00	330	½W	carbon (nonflammable)
R620	⚠1-212-982-00	100	½W	carbon (nonflammable)
R669	⚠1-247-228-00	330	½W	carbon (nonflammable)
R803, 805	⚠1-247-252-00	3.3k	½W	carbon (nonflammable)
R810	⚠1-247-192-00	10	½W	carbon (nonflammable)
RT201	1-226-233-00	1k-B, adjustable		
RT202,203	1-226-236-00	10k-B, adjustable		
RT204	1-226-234-00	2k-B, adjustable		
RT205,206	1-226-235-00	5k-B, adjustable		
RT207	1-226-233-00	1k-B, adjustable		
RT208	1-226-239-00	100k-B, adjustable		
RV602,652	1-226-836-00	250k-B/250k-B, variable		
RV603	1-226-227-00	250k-B, variable		
RV604,654, RV605,655	1-226-862-00	100k-C/100k-C, variable		

- Items marked "•" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Ref. No.	Part No.	Description
		MISCELLANEOUS
CB601,651	1-532-566-00	Circuit Breaker
CB801,802	⚠1-532-535-00	Circuit Breaker
CF201	1-527-534-XX	Filter, solid state
CF301	1-527-599-00	Filter, mechanical
CNJ1	⚠1-526-627-00	AC Outlet
CNP801	⚠1-534-817-XX	Cord, power
FE1	1-463-322-00	FM Front-end (W)
J501–503, J551–553	1-507-637-21	Pin Jack, 6p; REC OUT, TAPE, PHONO
J601	1-507-659-00	Jack, HEADPHONES
L302	1-407-173-XX	220μH, microinductor
L305	1-405-927-00	MW OSC Coil
L306	1-405-914-00	LW OSC Coil
L601, 651	1-420-872-00	Coil
L801	1-401-867-00	Ferrite-rod Antenna (MW, LW)
PL201,202	1-518-283-00	Pilot Lamp, 8V 300mA
PT801	⚠1-446-698-00	Transformer, power
S1	1-553-316-00	Switch, rotary
S2	1-553-309-00	Switch, pushbutton
S3	1-553-283-00	Switch, pushbutton
S6, 7	1-553-308-00	Switch, pushbutton; LOUDNESS, SPEAKERS
S8	⚠1-553-447-00	Switch, pushbutton; POWER
S9, 10	1-553-308-00	Switch, pushbutton; LOUDNESS, SPEAKERS
S301	1-553-314-00	Switch, slide; REMOTE TYPE
T201	1-404-170-00	Transformer, fm if
T301	1-409-348-00	Coil, mechanical filter
T302	1-404-266-00	Transformer, am if
TM601,602	1-536-627-00	Terminal, 4P; SPEAKERS
	1-217-589-00	Cross Conductor (MELF)
	1-463-322-00	Front-end (W)
	♦1-555-324-00	Lead, w/connector

Ref. No.	Part No.	Description
		COMPLETE CIRCUIT BOARDS
	♦A-4350-005-A	AM
	♦A-4351-230-A	Tuner
	♦A-4388-226-A	Power Amp
		PRINTED CIRCUIT BOARDS
	♦1-602-637-00	Power
	♦1-602-638-00	EQ
	♦1-602-639-00	Breaker
	♦1-602-643-00	IC
	♦1-602-644-00	Support
	♦1-602-708-00	Main
	♦1-602-709-00	FM PROGRAM Switch
	♦1-602-710-00	Indicator
	♦1-602-711-00	Antenna
	♦1-602-712-00	Lamp (R)
	♦1-602-713-00	Lamp (L)
	♦1-602-714-00	LED (A)–(C)
	♦1-602-716-00	AM

ACCESSORIES AND PACKING MATERIALS

Part No.	Description
1-501-184-00	FM Ribbon Antenna
3-701-630-00	Bag, plastic
3-783-620-11	Manual, instruction
3-794-869-11	Card, operation
4-864-354-00	Sheet, plastic
4-877-707-00	Carton

ELECTROLYTIC CAPACITORS

RATING → : Use the high voltage rated one.

CAP. (μF)	6.3 VOLT. PART No.	10 VOLT. PART No.	16 VOLT. PART No.	25 VOLT. PART No.	35 VOLT. PART No.	50 VOLT. PART No.
0.47					→	1-121-726-00
1.0					→	1-121-391-00
2.2					→	1-121-450-00
3.3	→	→	→	1-121-392-00	→	1-121-393-00
4.7	→	→	→	1-121-395-00	→	1-121-396-00
10	→	→	1-121-651-00	1-121-398-00	→	1-121-738-00
22	→	→	1-121-479-00	1-121-480-00	1-121-662-00	1-121-152-00
33	→	→	1-121-403-00	1-121-404-00	1-121-652-00	1-121-405-00
47	→	1-121-352-00	1-121-409-00	1-121-410-00	1-121-653-00	1-121-411-00
100	→	1-121-414-00	1-121-415-00	1-121-416-00	1-121-357-00	1-121-417-00
220	1-121-419-00	1-121-420-00	1-121-421-00	1-121-422-00	1-121-261-00	1-121-423-00
330	1-121-751-00	1-121-805-00	1-121-521-00	1-121-654-00	1-121-655-00	1-121-656-00
470	1-121-424-00	1-121-425-00	1-121-426-00	1-121-733-00	1-121-361-00	1-121-810-00
1000	–	1-121-736-00	1-121-245-00	1-121-657-00	1-121-388-00	1-123-061-00
2200	1-121-658-00	1-121-659-00	1-121-660-00	1-123-067-00	1-121-984-00	–
3300	1-121-661-00	1-123-075-00	1-123-071-00	–	–	–

CAP. (μF)	100 VOLT. PART No.	160 VOLT. PART No.	250 VOLT. PART No.	350 VOLT. PART No.
0.47	–	–	–	–
1.0	1-123-249-00	1-123-252-00	1-123-003-00	1-121-168-00
2.2	1-123-250-00	1-123-026-00	–	1-123-028-00
3.3	1-121-995-00	–	1-123-004-00	1-123-006-00
4.7	1-123-255-00	1-121-246-00	1-121-759-00	1-123-007-00
10	1-121-126-00	1-121-999-00	1-123-254-00	1-123-008-00
22	1-121-996-00	1-123-253-00	1-123-005-00	1-123-022-00
33	1-121-997-00	1-121-757-00	–	–
47	1-123-251-00	1-121-919-00	–	–
100	1-123-084-00	–	–	–

CERAMIC CAPACITORS

RATING

CAP. (pF)	50 VOLT. PART No.	CAP. (pF)	50 VOLT. PART No.	CAP. (pF)	50 VOLT. PART No.	CAP. (μF)	50 VOLT. PART No.
0.5	1-101-837-00	22	1-102-959-00	150	1-101-361-00	0.001	1-102-074-00
0.75	1-101-586-00	24	1-102-960-00	160	1-101-367-00	0.0012	1-102-118-00
1.0	1-102-934-00	27	1-102-961-00	180	1-102-976-00	0.0015	1-102-119-00
1.5	1-101-576-00	30	1-102-962-00	200	1-102-977-00	0.0018	1-102-120-00
2.0	1-102-935-00	33	1-102-963-00	220	1-102-978-00	0.0022	1-102-121-00
3	1-102-936-00	36	1-102-964-00	240	1-102-979-00	0.0027	1-102-122-00
4	1-102-937-00	39	1-102-965-00	270	1-102-980-00	0.0033	1-102-123-00
5	1-102-942-00	43	1-102-966-00	300	1-102-981-00	0.0039	1-102-124-00
6	1-102-943-00	47	1-101-880-00	330	1-102-820-00	0.0047	1-102-125-00
7	1-102-944-00	51	1-101-882-00	360	1-102-821-00	0.0056	1-102-126-00
8	1-102-945-00	56	1-101-884-00	390	1-102-822-00	0.0068	1-102-127-00
9	1-102-946-00	62	1-101-886-00	430	1-102-823-00	0.0082	1-102-128-00
10	1-102-947-00	68	1-101-888-00	470	1-102-824-00	0.01	1-102-129-00
11	1-102-948-00	75	1-101-890-00	510	1-101-059-00	0.022	1-101-005-00
12	1-102-949-00	82	1-102-971-00	560	1-102-115-00	0.047	1-101-006-00
13	1-102-950-00	91	1-102-972-00	680	1-102-116-00		
15	1-102-951-00	100	1-102-973-00	820	1-102-117-00		
16	1-102-952-00	110	1-102-815-00				
18	1-102-953-00	120	1-102-816-00				
20	1-102-958-00	130	1-101-081-00				

0.001μF = 1,000pF

CERAMIC (SEMICONDUCTOR) CAPACITORS

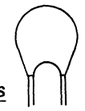
RATING → : Use the high voltage rated one.

CAP. (μF)	25 VOLT. PART No.	50 VOLT. PART No.	CAP. (μF)	25 VOLT. PART No.	50 VOLT. PART No.
0.001	→	1-161-039-00	0.018	1-161-016-00	1-161-054-00
0.0012	→	1-161-040-00	0.022	1-161-017-00	1-161-055-00
0.0015		1-161-041-00	0.027	1-161-018-00	1-161-056-00
0.0018		1-161-042-00	0.033	1-161-019-00	1-161-057-00
0.0022		1-161-043-00	0.039	1-161-010-00	1-161-058-00
0.0027	→	1-161-044-00	0.047	1-161-021-00	1-161-059-00
0.0033	→	1-161-045-00	0.056	→	1-161-060-00
0.0039	→	1-161-046-00	0.068	→	1-161-061-00
0.0047	→	1-161-047-00	0.082	1-161-024-00	1-161-062-00
0.0056	→	1-161-048-00	0.1	1-161-025-00	1-161-063-00
0.0068	→	1-161-049-00			
0.0082	1-161-012-00	1-161-050-00			
0.01	1-161-013-00	1-161-051-00			
0.012	→	1-161-052-00			
0.015	1-161-015-00	1-161-053-00			

MYLAR CAPACITORS

RATING

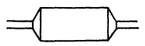
CAP. (μF)	50 VOLT. PART No.	100 VOLT. PART No.	200 VOLT. PART No.	CAP. (μF)	50 VOLT. PART No.	100 VOLT. PART No.	200 VOLT. PART No.	CAP. (μF)	50 VOLT. PART No.	100 VOLT. PART No.	200 VOLT. PART No.
0.001	1-108-227-00	1-108-365-00	1-108-409-00	0.01	1-108-239-00	1-108-377-00	1-108-421-00	0.1	1-108-251-00	1-108-389-00	1-108-433-00
0.0012	1-108-351-00	1-108-366-00	1-108-410-00	0.012	1-108-357-00	1-108-378-00	1-108-422-00	0.12	1-108-363-00	1-108-390-00	1-108-434-00
0.0015	1-108-228-00	1-108-367-00	1-108-411-00	0.015	1-108-240-00	1-108-379-00	1-108-423-00	0.15	1-108-252-00	1-108-391-00	1-108-435-00
0.0018	1-108-352-00	1-108-368-00	1-108-412-00	0.018	1-108-358-00	1-108-380-00	1-108-424-00	0.18	1-108-364-00	1-108-392-00	1-108-436-00
0.0022	1-108-230-00	1-108-369-00	1-108-413-00	0.022	1-108-242-00	1-108-381-00	1-108-425-00	0.22	1-108-254-00	1-108-393-00	1-108-437-00
0.0027	1-108-353-00	1-108-370-00	1-108-414-00	0.027	1-108-359-00	1-108-382-00	1-108-426-00	0.27	1-108-854-00	–	–
0.0033	1-108-232-00	1-108-371-00	1-108-415-00	0.033	1-108-244-00	1-108-383-00	1-108-427-00	0.33	1-108-855-00	–	–
0.0039	1-108-354-00	1-108-372-00	1-108-416-00	0.039	1-108-360-00	1-108-384-00	1-108-428-00	0.39	1-108-856-00	–	–
0.0047	1-108-234-00	1-108-373-00	1-108-417-00	0.047	1-108-246-00	1-108-385-00	1-108-429-00	0.47	1-108-857-00	–	–
0.0056	1-108-355-00	1-108-374-00	1-108-418-00	0.056	1-108-361-00	1-108-386-00	1-108-430-00				
0.0068	1-108-237-00	1-108-375-00	1-108-419-00	0.068	1-108-249-00	1-108-387-00	1-108-431-00				
0.0082	1-108-356-00	1-108-376-00	1-108-420-00	0.082	1-108-362-00	1-108-388-00	1-108-432-00				



TANTALUM CAPACITORS

RATING → : Use the high voltage rated one.

CAP. (μF)	3.15 VOLT. PART No.	6.3 VOLT. PART No.	10 VOLT. PART No.	16 VOLT. PART No.	20 VOLT. PART No.	25 VOLT. PART No.	35 VOLT. PART No.
0.01					→	→	1-131-396-00
0.015						→	1-131-397-00
0.022						→	1-131-398-00
0.033						→	1-131-399-00
0.047						→	1-131-400-00
0.068					→	→	1-131-401-00
0.1					→	→	1-131-402-00
0.15					→	→	1-131-403-00
0.22					→	→	1-131-404-00
0.33					→	1-131-409-00	1-131-405-00
0.47	–	–	–	–	1-131-412-00	→	1-131-406-00
0.68	–	–	–	1-131-415-00	→	1-131-410-00	1-131-407-00
1.0	–	–	1-131-418-00	–	1-131-413-00	→	1-131-408-00
1.5	–	1-131-421-00	–	1-131-416-00	→	1-131-411-00	1-131-348-00
2.2	1-131-424-00	–	1-131-419-00	–	1-131-414-00	1-131-355-00	1-131-349-00
3.3	–	1-131-422-00	–	1-131-417-00	1-131-362-00	1-131-356-00	1-131-350-00
4.7	1-131-425-00	–	1-131-420-00	1-131-369-00	1-131-363-00	1-131-357-00	1-131-351-00
6.8	–	1-131-423-00	1-131-376-00	1-131-370-00	1-131-364-00	1-131-358-00	1-131-352-00
10	1-131-426-00	1-131-383-00	1-131-377-00	1-131-371-00	1-131-365-00	1-131-359-00	1-131-353-00
15	1-131-390-00	1-131-384-00	1-131-378-00	1-131-372-00	1-131-366-00	1-131-360-00	–
22	1-131-391-00	1-131-385-00	1-131-379-00	1-131-373-00	1-131-367-00		
33	1-131-392-00	1-131-386-00	1-131-380-00	1-131-374-00			
47	1-131-393-00	1-131-387-00	1-131-381-00	–			
68	1-131-394-00	1-131-388-00	–	–			
100	1-131-395-00	–	–	–			



TANTALUM CAPACITORS

RATING

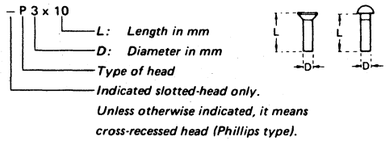
CAP. (μF)	3 VOLT. PART No.	6.3 VOLT. PART No.	10 VOLT. PART No.	16 VOLT. PART No.	20 VOLT. PART No.	35 VOLT. PART No.
0.033						1-131-273-00
0.047						1-131-274-00
0.068						1-131-275-00
0.1						1-131-276-00
0.15						1-131-277-00
0.22			–	–	1-131-262-00	1-131-278-00
0.33			–	–	1-131-263-00	1-131-279-00
0.47			1-131-169-00	–	1-131-264-00	1-131-280-00
0.68			–	1-131-258-00	1-131-265-00	1-131-281-00
1.0			1-131-254-00	–	1-131-266-00	1-131-282-00
1.5		1-131-250-00	–	–	1-131-267-00	1-131-283-00
2.2		–	–	1-131-259-00	1-131-268-00	1-131-284-00
3.3		–	1-131-255-00	–	1-131-269-00	–
4.7		1-131-251-00	1-131-171-00	–	1-131-270-00	–
6.8		–	–	1-131-260-00	1-131-271-00	–
10	–	–	1-131-256-00	–	1-131-272-00	–
15	–	1-131-252-00	–	1-131-261-00		
22	–	–	1-131-257-00	–		
33	1-131-176-00	1-131-253-00	1-131-173-00	–		
47	1-131-288-00	1-131-174-00	–	–		
100	1-131-177-00					

1/4 WATT CARBON RESISTORS

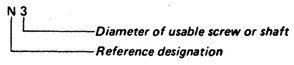
Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-476-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-477-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-478-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-479-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-480-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-481-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-482-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-483-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-484-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-485-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-486-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-487-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

HARDWARE NOMENCLATURE

Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

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